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Spawning Areas of British Columbia Herring: A Review, Geographical Analysis and Classification
Volume I: Queen Charlotte Islands

D. E. Hay, P. B. McCarter, R. Kronlund and C. Roy

Department of Fisheries and Oceans
Biological Sciences Branch
Pacific Biological Station
Nanaimo, British Columbia V9R 5K6

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SPAWNING AREAS OF BRITISH COLUMBIA HERRING

A review, geographical analysis and classification

Volume I

Queen Charlotte Islands

by

D. E. Hay, P. B. McCarter, R. Kronlund and C. Roy

Department of Fisheries and Oceans

Biological Sciences Branch

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Nanaimo, British Columbia V9R 5K6

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ABSTRACT

Hay, D. E., P. B. McCarter, R. Kronlund and C. Roy. 1989. Spawning areas of British Columbia herring: a review, geographical analysis and classification. Volume I. Queen Charlotte Islands. Can. MS Rep. Fish. Aquat. Sci. 2019: 135 p.

The geographical distribution of herring spawning in British Columbia, was analysed for 50 years, from 1937 to 1986. The analyses was based on approximately 20,000 records of spawning made annually for different regions of the British Columbia coast by Fishery Officers. For each of about 90 geographical subdivisions of the coast, tables are presented to show the annual frequency of spawns in one kilometer segments of the coast. The intensity of spawning in specific areas is shown by histograms. Separate tables present a statistical summary of spawn records, including mean spawning dates. Tables summarizing roe fishery activity (1972-86) are shown for each location. A descriptive summary including a classification of the ecological importance of herring spawning habitat, is presented for each area.

Key words: herring, spawning, British Columbia

RÉSUMÉ

Hay, D. E., P. B. McCarter, R. Kronlund and C. Roy. 1989. Spawning areas of British Columbia herring: a review, geographical analysis and classification. Volume I. Queen Charlotte Islands. Can. MS Rep. Fish. Aquat. Sci. 2019: 135 p.

Pendant 50 ans, plus précisément de 1937 à 1986, on a étudié la répartition géographique du frai de hareng en Colombie-Britannique. L'analyse se fonde sur des données extraites d'environ 20 000 rapports annuels sur le frai produits par les agents des pecheries à l'égard dediverses régions côtières de la Colombie-Britannique. Pour chacune des quelque 90 subdivisions géographiques de la côte, on a dressé des tableaux qui montrent la fréquence annuelle de frai dans des segments d'un kilomètre. Des histogrammes montrent l'intensité du frai dans les secteurs particuliers. Des tableaux distincts donnent un résumé statistique des données de frai, y compris les dates moyennes de frai. Il y a également des tableaux illustrant la peche de rogue (1972-1986) à chaque endroit. Chaque secteur fait également l'objet d'un résumé descriptif donnant une classification de l'importance écologique du milieu de frai du hareng.

Mots clés: hareng, frai, Colombie-Britannique

INTRODUCTION

In recent years there has been increased awareness and concern by industry, government and the public about the environmental protection of Pacific herring spawning grounds. A number of nearshore developments, such as oil exploratory activities and mariculture establishments could affect some inter- and subtidal spawning areas used by herring. Much of the British Columbia coast, perhaps 12% or more, has been used as a spawning site at least once during the last 50 years (Hay 1985). However, a much smaller proportion of the coast has been used for repetitive spawning over a number of years. The locations that support repetitive spawning deserve the most attention and consideration from possible environmental impacts. This report provides the basis for identifying significant herring spawning areas and locations which support major herring fisheries.

HERRING SPAWNING RECORDS

Detailed records of herring spawns in British Columbia are collected annually by Fishery Officers (Hay and Kronlund 1987). From 1928 to 1986 a total of nearly 20,000 records from over 1100 locations were recorded. The geographical size of a 'location' can vary from an island or cove measuring only 100 m in length or breadth, to bays or inlets more than 50 km in length. Also, geographical spawning locations frequently are 'clustered' so that sometimes many geographical names are used to describe the same general vicinity. Therefore, the continuity of spawnings cannot be examined by considering only single locations, rather, the adjacent locations should also be considered.

About 70% of all Fishery Officer spawn records have an accompanying map or chart showing the geographical position of each spawning. Records without charts consist of narratives or tables describing the position of each spawn relative to a fixed reference point, such as a Bay, Inlet, Island, etc. For spawn records with accompanying charts, we estimated the geographical positions of each spawn according to 0.1 km intervals along shorelines. This was done in all areas where herring were known to have spawned. Sub-divisions or 'sections' of the Statistical Areas (Hourston and Hamer 1979) were used as the smallest geographical unit. Most sections have a 'zero' position which increases, as high as necessary, to include all of the spawning locations. In several cases, spawning overlaps adjacent sections. In these instances, the spawn positions were made to be continuous between sections. Within most sections, herring spawning was not continuous along the shoreline throughout the whole section. Rather, spawning occurred in several different regions of the section, separated by distances without spawnings. This geographical discontinuity of spawning was reflected in the intervals. The 0.1 km intervals were not defined for the entire coastline but rather only for the

general vicinity of herring spawnings. Therefore, there are geographical gaps in the position numbers. Positions of spawning were defined for each of the 110 sections on the coast that had a sufficient number of records for analysis.

Positions were estimated for records that did not have accompanying charts (about 30%). Using the 70% of the records which did have accompanying charts, an average spawn postion was calculated for each (approximately 1100) location. These 'estimated' spawning positions are distinguished from the measured positions in the analysis. A few locations had no charted spawn positions or an insufficient number to make a reasonable estimate. In these relatively few instances we assigned an 'estimated position' to some location names. This assigned position is distinguished from the measured and estimated positions in the analysis.

The accuracy of the estimated spawn positions varied with the quality of the record. Some positions were provided on fine-scaled, detailed maps, which allowed an estimated spawn position in our analysis to within 0.1 km or finer. Sometimes, however, only coarse-scaled charts were available so the estimated spawn position was accurate only to 1.0 km or more. In practice, the least precise estimated position involved records with very long spawns, longer than 5 km.

THE FORMAT OF THIS REPORT

This report is organized into about 106 sections corresponding approximately to sections of the major Statistical Areas defined by the Department of Fisheries and Oceans (Hourston and Hamer 1979). Since the work was completed, however, there have been some minor changes in the Statistical Area boundaries. Also, there have been minor changes in the boundaries and names used for sections (Haist and Rosenfeld 1988). These changes, however, do not interfere with the geographical analysis presented in this report but for some future analyses, these new geographical modifications will have to be made.

For each section, geographical location figures and as many as five tables are presented in the following order:

(1) The first figure shows an overview chart of the location of the section (highlighted) relative to the whole north, or south coast of British Columbia. (2) The second figure shows a more detailed chart (or charts) in 1-km sections. For most of the figures, only every second km is labelled. (3) Spawn positions, in km segments, by year are summarized in the first table. The symbols on the charts are explained below. (4) The second table shows a histogram of the cumulative frequency of spawning per km segment for spawning data pooled over all years from 1937 to 1986. The symbols are explained below. (5) The third table is a statistical summary of spawning, by year from 1937 to 1986. Details of each of the columns in the table are explained below. (6) The fourth table is a summary narrative which briefly

summarizes and comments on highlights of the preceding data. (7) The last table shows the history of roe fishery catches summarized by location, date, time and hailed roe fishery catch, by gillnet and seines, in each area.

DERIVATION OF SPAWN POSITIONS USED IN THE TABLES

Analysis of spawn position by year (first table in each section)

For any single position on the coast, there are three types of spawn records:

(i) Type 1: records with a geographical name (for example, Departure Bay near Nanaimo) and a documented geographical position, supported by Fishery Officer chart or map;

(ii) Type 2: records with no charted position but with a geographical name that was used to describe locations of spawns. From Type 1 records, an 'average' position, in terms of average km segment, of each geographical name was calculated. For each geographical name, the position of all Type 2 records is shown relative to the 'average' position of the Type 1 records. All spawn data taken prior to 1951 and subsequent to 1983 fall into this category because we have not had the resources to measure the spawn positions.

(iii) Type 3: records with no charted position and a geographical name that was not ever used with 'type 1' spawns. Therefore, the only spawn position that can be used must be roughly estimated by comparing the approximate geographical position relative to the kilometer intervals extended from adjacent spawn records.

The three types of spawn records are shown with different symbols on the tables 'spawn position by year'. In general, most spawn records have the geographic location indicated on charts. Such a spawn record, for a given year and a specific km interval, is indicated by a digit from 1 to 9, representing from one to nine spawn records within that km interval. The digit '1' is the most common record (i.e., a single record) and it could represent a spawn record that occupied (a) the full length interval (i.e., a full km of spawn, perhaps as part of a longer spawning that extended on both sides of the interval) or (b) only part of the interval. For instance, a spawn record of 100 m length would be represented as '1', a single spawning record within that length interval. A spawn record of 500 or 900 m length also would be indicated as '1', or a single record. However, two short adjacent spawn records, say of 100 m length each and occurring within the same km interval, would be indicated by a '2'. Two records occurring at exactly the same place but at different periods would be indicated by a '2'. Similarly, three or more adjacent records within the km interval, or three spawns occurring at different times within the same years but within the km interval would be indicated by the respective digit from '3' to '9'. There are some instances of numerous records of short spawn records, more than nine

per km, and when this occurs the collective records are indicated by the asterisk symbol '*'.

For 'type 2' spawn records (where the geographical position of each record is estimated on the basis of the 'type 1' records with known positions) a single spawn record per km segment is indicated by the small case letter 'a'. Two records are indicated as 'b', three as 'c' and so on until a maximum of 26, shown as 'z'. Instances with more than 26 records per km are indicated with the symbol '#'. There are only a few instances of these symbols in the tables and when they occur, the represented positions are probably too tightly packed relative to the real positions of the spawns. For instance, sometimes when only a geographical name is used as the basis of the spawn position, then that name could apply either to a precise section of the coast (for example, Point Grey, which represents a relatively exact coastal position) or to a broad area (for example, Burrard Inlet which is many km in length). Therefore, type 2 records with geographical names that apply to broad areas will probably appear to be too condensed in the tables of spawn position by year.

Type 3 records are indicated by the hat symbol '^'. There is no attempt to indicated the number of such records per km interval. Therefore a single hat could indicate one or more type 3 spawn records per km segment.

Sometimes, there is more than one type of spawn record per single km interval. This sometimes happens in recent years when precise geographical names are used at one time as well as a new geographical name that has not been used before. Sometimes 'new' or additional names are used to describe some small, late spawns that occur 2-3 weeks after the main spawning activity.

The combination of different types of records, within a single km is as follows:

Record Combination	Symbol
type 1 records only.....1 to 9, then '*'	for 10 or more records
type 2 records only.....a to z, then '#'	for 27 or more records
type 3 records only.....'^'	for 1 or more records
type 1 plus type 2 .....'$'	for 2 or more records
type 1 plus type 3 .....'∂'	for 2 or more records
type 2 plus type 3 .....'ε'	for 2 or more records
type 1 plus type 2 plus type 3 .....'%'	for 3 or more records

Analysis of the cumulative spawn frequency by location (second table in each section)

The explanation of this table is similar to that of the first table. The total number of spawn records recorded for a single km interval is shown for each section. As discussed in the explanation for the first table,

there are three types of records of spawn. In this histogram, the cumulative frequency of type 1, 2 and 3 records is indicated by the symbols '*', 'O' and 'I' respectively and in the far right column, the total numbers of records per each km interval are indicated. For instance, a single record of a spawn with a known position, would appear as a '1' or '2' adjacent the '*' symbols. The number of intervals affected would depend on whether a single spawn overlapped the interval boundaries. Another example could be a 5 km spawn record, with a calculated spawn position (type 2) record, would be indicated by a '5' or '6' adjacent the 'O' symbols.

Statistical summary of spawning by location (third table in each section)

This table contains a number of columns that provide a year-by-year quantitative history of spawning, summarized for each section. The explanation for each column is described below:

Column	Heading	Explanation
1	Year	The documented year, between 1937 and 1986.
2	Total records	The total number of spawn records (spawn occurrences) per year.
3	Spawn index	An estimate of the area of spawn (m^2) based on conversion factors that correct for the time trends in estimates of spawn intensity and spawn width (see Hay and Kronlund 1987).
4	Sum length	The total length of spawn in metres, for each year.
5	Av wid	The average width of spawn in metres, for each year.
6	Av int	The average intensity of spawn on a scale of 1 (very light) to 9 (very heavy) (For further explanation, see Hay and Kronlund 1987).
7	Av date	The average spawning date presented by the Day of the year (DOY) where Jan. 1 = DOY 1, Jan. 2 = DOY 2, Feb. 1 = 32 DOY, and so on.
8	SE date	The standard error of the mean weighted spawn date.
9	Wt date	The average weighted spawning date. The date (DOY) of each record is 'weighted' by the length of each record. In most instances, the weighted and unweighted are nearly identical.
10	Min day	The earliest spawn date recorded each year, by DOY
11	Max day	The latest spawn date recorded each year, by DOY

12	Ind day	The number of different days over which spawnings occurred. A single spawn record on a single day would be 1. One single record extending over 5 days would be 5, etc.
13	Ind loc	The number of different spawning locations used. For the total coast, there are a total of about 1100 locations. If there were 10 separate small spawns within the same location, the number would be 1.

Herring spawn summary by location (fourth table in each section)

This table is a narrative based on the following criteria. The 'SPAWNING CONSISTENCY OVER TIME' is described as: (i) 'INFREQUENT' if the spawns were recorded in less than 50 percent of documented years, (ii) 'FREQUENT' if the spawns were recorded in 50 to 79 percent of documented years and (iii) 'CONSTANT' if the spawns were recorded in 80 to 100 percent of documented years. The 'MAGNITUDE OF SPAWNINGS' assessed from 1937 to 1986 for each section is described as: (i) 'VERY SMALL' if there was less than 50 hectares of cumulative spawn area, (ii) 'SMALL' if there was 50-200 hectares of cumulative spawn area, (iii) 'MEDIUM' if there was 201-500 hectares of cumulative spawn area, (iv) 'LARGE' if there was 501-1500 hectares of cumulative spawn area and (v) 'VERY LARGE' if there was greater than 1500 hectares of cumulative spawn area.

The history of roe fishery catches by gear type and by location (fifth table in each section)

This table is based on the hailed catches, as reported in annual information bulletins or industry reports (Chalmers et al. 1981, 1982, 1985, 1986 and Humphreys et al. 1972, 1973 and Webb et al 1974, 1975, 1979 and 1980). Catches, in short tons, hailed on the grounds were cited here as they are the most accurate representation of the LOCATION of catches. They may differ from tables reported in the annual catch summaries or stock assessments and forecast reports (Haist et al. 1988) because these documents are usually based on sales slip records. These other reports should be consulted if more accurate total catch figures by major area are required. Furthermore, the first year of the roe fishery (1971) was not included in this compilation due to incomplete or inconsistent records. Also, it should be noted that hailed catches in parenthesis in table 5 indicates herring catch was from two or more sections.

LIMITATIONS AND APPLICATIONS OF THESE ANALYSES

The precise geographical limits of herring spawning probably are accurate to within a kilometer, more in some specific sites and less in others. The original Fishery Officer records were made with varying degrees

of precision and the degree of precision often depends on the area of the spawning or survey; areas which have a lot of relatively fine-scale geographical detail, such as the Gulf Islands in southern Georgia Strait, probably are more accurate than areas with fewer geographical details, such as the relatively straight shoreline between Parksville and Deep Bay. In general however, the summaries presented here should be reasonable indicators of spawning activity to the nearest kilometer.

This geographical compilation and historical synopsis of herring spawns represents the culmination of several earlier but briefer versions. One of the earlier analyses, presented at the Annual Herring Stock Assessment Meetings as PSARC WORKING PAPER 86-5, had widespread distribution and was used for examination and evaluation of ecologically sensitive areas relative to potental impacts from oil exploration activities and mariculture developments.

During the several years of preparatory work that has gone into this project, we often have heard the criticism that the herring spawning data base has limited value because of alleged errors and omissions in the records. The most frequently cited error attributed to the records is that the data collected on the spawn dimensions were made in a sloppy way and "often by the cook on a patrol vessel"; alternately, we have heard that some Fishery Officers could not be bothered to go out and look for herring spawn rather, they simply noted the presence or absence of seabirds and assumed that herring spawn occurred wherever birds occurred. Undoubtably, some of these stories are correct, but probably for not more than a few of the nearly 20,000 records used in these analysis. Based on detailed examination of the original records, it is clear that the overwhelming majority of the Fishery Officers who report on herring spawns, do it in a dedicated, professional and competent manner, often with detailed comments and charts accompanying the records.

There are, nevertheless, two kinds of systematic error in these records which should be mentioned. The first appears to be a time-dependent trend for Fishery Officers to underestimate spawn width. This occurred mainly in the earlier years, when it was generally believed that most of the spawn was confined to the inter-tidal zone. It has not been until relatively recent times that the significance of the subtidal fraction has been appreciated (Haegele et al. 1983). Also, there has been systematic changes in the spawn intensity measurements, in part reflecting changes in the measurement or rating criteria used over the years (see Hay and Kronlund 1987 for more detail). However, neither of these systematic errors have any effect on the analysis in the present study, which does not involve any presentation of the 'spawn index' which is fully described in Hay and Kronlund (1988). The only other kind of error in the records which can severely affect conclusions presented in these analyses, is that of incompleteness. It is clear that for some locations, records were not collected systematically each year. As much as possible we have attempted to comment on this in the narrative summary tables.

The data and analysis that are presented in this document have been available for the last two years, on request, to anyone with an interest in the historical distribution of herring spawning areas. The analyses already have been used many times for examinations of impacts of different nearshore developments. It appears that one of the most useful aspects of the analyses is that some areas are identified clearly as important spawning locations and

others, with no history of herring spawns, are shown to be not important. There are many locations or km segments, however, which are in between. They have a record of spawning which varies in time. These 'intermediate' spawning locations are the most difficult to evaluate in terms of their importance in maintaining the well being of the herring resource.

In general, we suggest that it is essential to conserve the spawning areas that have a history of repetitve spawning over time. Also, areas immediately adjacent to spawning areas must be protected. Ultimately however, each instance of a nearshore development that might impact herring spawning areas must be decided on its own merits and it should be kept in mind that we still do not understand why some areas are used as spawning areas and others are not. Some locations which are not known as spawning areas appear to have the appropriate vegetative substrate and local oceanographic regimes that are found in documented spawning areas (Hay et al. 1984). Further, herring 'enhancement' does not appear to be possible at the present time (Hay and Marliave 1988). Therefore, if herring spawning habitat is lost, we cannot necessarily expect the impacted stocks to spawn in other locations nor can we realistically expect that new spawning habitat can be created. Finally, throughout this report we have commonly used the word "stock" or "resident stock" that refer to herring that inhabit an area. This usage is for convenience only, and cannot be used as an indicator of any particular uniqueness (genetic or otherwise) of herring from one place to the other.

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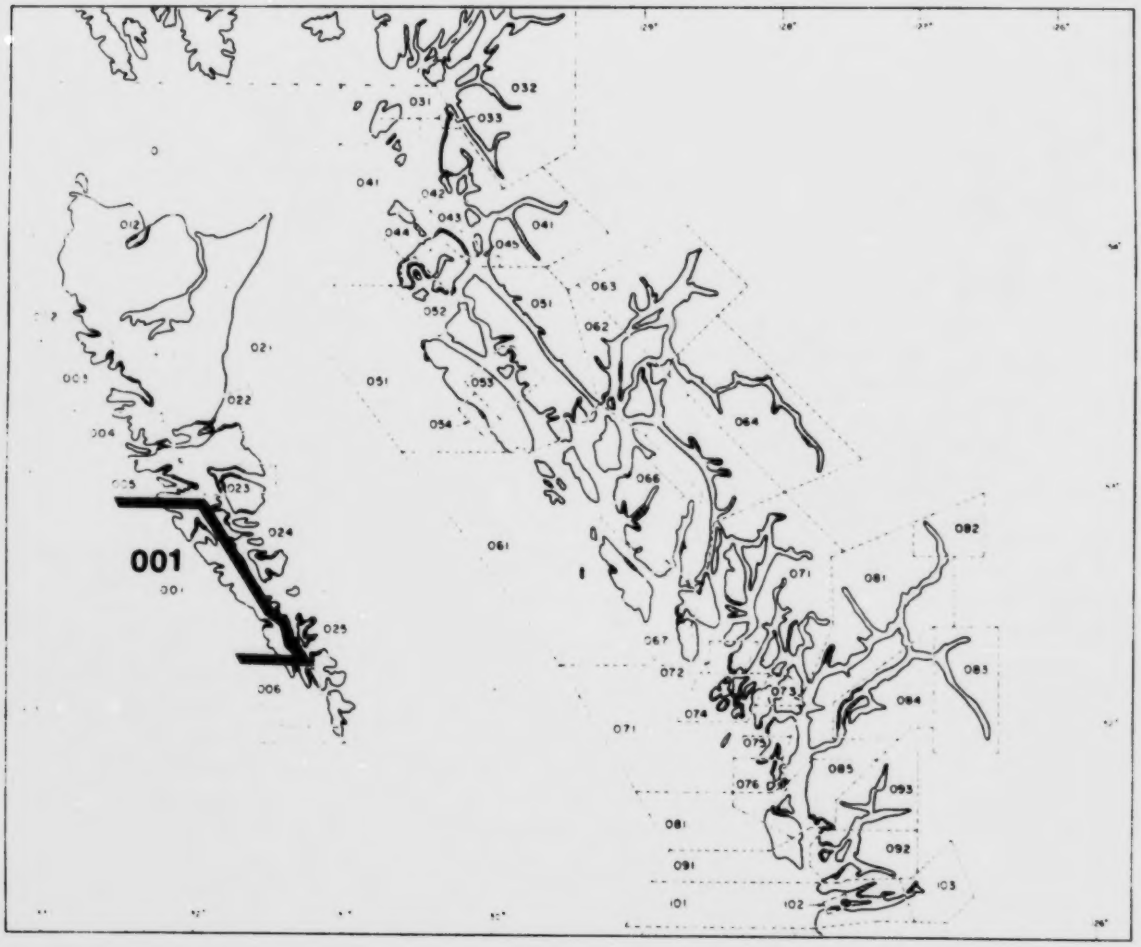

Fig. 001-1. Overview map showing location of section 001, Other Area 2W.

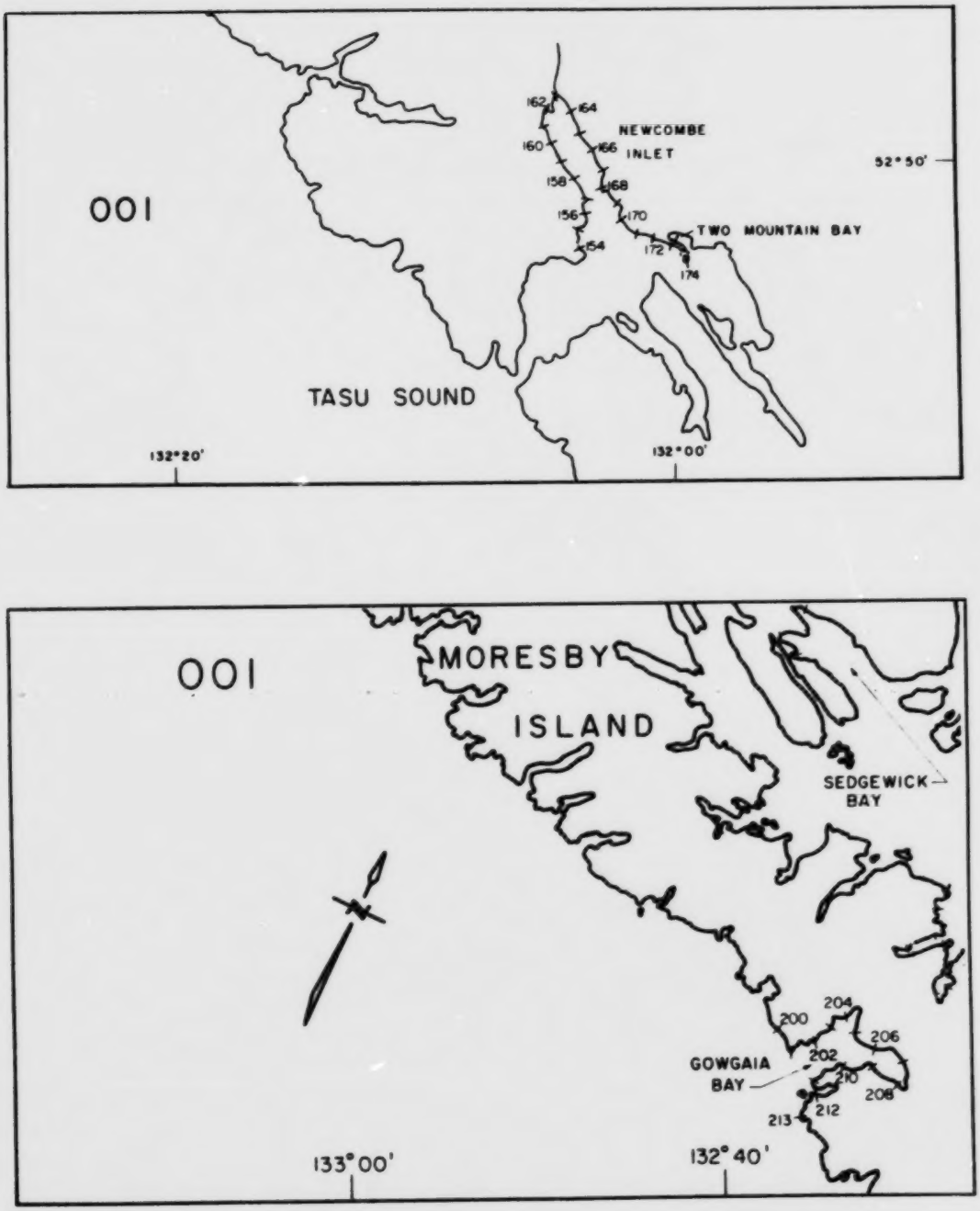

Fig. 001-2. Detailed map of section 001, Other Area 2W.

Table 001-1. Section 001 - spawn position by year.

```
     154.00    164.00    174.00
       +---+---+---+---+---+
1937   +
1938   +
1939   +
1940   +
1941   +
1942   +
1943   +
1944   +
1945   +
1946   +
1947   +
1948   +
1949   +
1950   +
1951   +
1952   +
1953   +
1954   +
1955   +
1956   +
1957   +
1958   +
1959   +            1111111
1960   +                  11
1961   +            111111
1962   +              11
1963   +
1964   + 11
1965   +
1966   +
1967   +              21
1968   +
1969   +                    1
1970   +
1971   +
1972   +
1973   +
1974   +
1975   +
1976   +
1977   +
1978   +            aaa
1979   +   2        2123232
1980   +  121         112 1
1981   +  11       1 1461
1982   +
1983   +            b
1984   +            aba
1985   +
1986   +
       +---+---+---+---+---+
     154.00    164.00    174.00

                  N   T
                  E   A
                  W   S
                  C   U
                  O
                  M   S
                  B   D
                  E   /
                      T
                  I   W
                  N   O
                  L
                  E   M
                  T   T
```

Table 001-2. Section 001 - Histogram of cumulative spawn frequency over distance.

	position(km)	0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75	vara	varh	varc	all
	153.00	+	0	0	0	0
	154.00	+	0	0	0	0
	155.00	+*	1	0	0	1
	156.00	+***	3	0	0	3
	157.00	+*****	5	0	0	5
	158.00	+*	1	0	0	1
	159.00	+	0	0	0	0
	160.00	+	0	0	0	0
	161.00	+	0	0	0	0
	162.00	+	0	0	0	0
	163.00	+	0	0	0	0
	164.00	+***00	3	2	0	5
NEWCOMBE INLET	165.00	+***00000	3	5	0	8
	166.00	+******00	6	2	0	8
	167.00	+**********	13	0	0	13
	168.00	+***********	14	0	0	14
	169.00	+******	6	0	0	6
TASU SOUND /TWO MOUNTAIN	170.00	+*****	5	0	0	5
	171.00	+**	2	0	0	2
	172.00	+*	1	0	0	1
	173.00	+	0	0	0	0
	174.00	+*	1	0	0	1
	175.00	+	0	0	0	0
	176.00	+	0	0	0	0
	177.00	+	0	0	0	0
	178.00	+	0	0	0	0
	179.00	+	0	0	0	0
	180.00	+	0	0	0	0
	181.00	+	0	0	0	0
	182.00	+	0	0	0	0
	183.00	+	0	0	0	0
	184.00	+	0	0	0	0
	185.00	+	0	0	0	0
	186.00	+	0	0	0	0
		0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75	vara	varh	varc	all

Table 001-2 (cont'd).

		0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	vara	varb	varc	all
	187.00	+																0	0	0	0
	188.00	+																0	0	0	0
	189.00	+																0	0	0	0
	190.00	+																0	0	0	0
	191.00	+																0	0	0	0
	192.00	+																0	0	0	0
	193.00	+																0	0	0	0
	194.00	+																0	0	0	0
	195.00	+																0	0	0	0
	196.00	+																0	0	0	0
	197.00	+																0	0	0	0
	198.00	+																0	0	0	0
	199.00	+																0	0	0	0
	200.00	+																0	0	0	0
	201.00	+																0	0	0	0
	202.00	+																0	0	0	0
	203.00	+																0	0	0	0
	204.00	+IIIIIIIIII																0	0	10	10
GONGAIA BAY	205.00	+IIIIIIIIII																0	0	10	10
	206.00	+																0	0	0	0
		0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	vara	varb	varc	all

Table 001-3. Herring statistical spawn summary for section 001.

Year	Total records	Spawn index	Sum length	Av wid	Av int	Av date	SE date	Wt date	Min day	Max day	Ind day	Ind loc
1937	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1938	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1939	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1940	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1941	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1942	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1943	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1944	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1945	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1946	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1947	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1948	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1949	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1950	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1951	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1952	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1953	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1954	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1955	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1956	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1957	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1958	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1959	1	22107	5850	9	4.0	100.0	0.00	100.0	100	100	1	1
1960	1	1035	274	9	5.0	97.0	0.00	97.0	97	97	1	1
1961	1	18910	5004	5	3.0	87.0	0.00	87.0	87	87	1	1
1962	1	4146	1097	18	5.0	86.0	0.00	86.0	86	86	1	1
1963	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1964	1	1901	503	9	3.0	84.0	0.00	84.0	84	84	1	1
1965	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1966	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1967	2	1209	320	4	4.0	96.0	0.00	96.0	96	96	1	1
1968	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1969	1	518	137	5	1.0	102.0	0.00	102.0	102	102	1	1
1970	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1971	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1972	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1973	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1974	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1975	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1976	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1977	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1978	1	7600	2011	5	5.0	104.0	0.00	104.0	104	104	1	1
1979	14	16420	4345	12	4.3	105.6	1.33	104.2	102	112	2	2
1980	6	16325	4320	5	1.5	101.0	0.00	101.0	101	101	1	2
1981	21	27027	7152	7	0.0	84.3	1.56	84.1	77	91	2	2
1982	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1983	2	3779	1000	21	0.0	91.0	0.00	91.0	91	91	1	1
1984	2	6651	1760	8	0.0	98.0	0.00	98.0	98	98	1	1
1985	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1986	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
All	54	127628	33773	9	3.6	94.2	1.44	94.5	77	112	13	4

Table 001-4. Spawn summary for section 001 from 1937 to 1986.

A. GENERAL:

There are only two known general spawning locations in this section:
(i) Tasu Sound, including Newcombe Inlet and Two Mountain Bay and
(ii) Gowgaia Bay

B. COMPLETENESS OF RECORDS:

Probably all spawning records prior to 1959 are incomplete.

C. SPAWNING CONSISTENCY OVER TIME: INFREQUENT

There appear to be two recorded episodes of spawning in Tasu Sound, the first from 1959 to 1962, and the second from 1978 to 1984. It is possible that spawnings in other years are incomplete because this location is remote.

D. MAGNITUDE OF SPAWNINGS: VERY SMALL

1. NUMBER OF SPAWN YEARS/50 YEARS	= 13/50 (1937-86)
2. NUMBER OF SPAWN YEARS/DOCUMENTED YEARS	= 13/28 (1959-86)
3. CUMULATIVE SPAWN LENGTH	= 33.8 Km.
4. CUMULATIVE SPAWN AREA	= 12.8 ha.

E. SPAWNING TIME:

1. MEAN UNWEIGHTED DATE (DOY)	= April 4 (94.2)
2. MEAN WEIGHTED DATE (DOY)	= April 4 (94.5)

F. COMMENTS:

The status of herring spawning in Tasu is uncertain because records may be incomplete. It is possible, but unlikey, that there is a small resident stock in the vicinity of Tasu Inlet. Otherwise, the occasional spawns here probably originate from larger spawning areas in the north. All records from Gowgaia Bay were made in a single year, 1971.

G. ROE FISHERIES:

No major roe fisheries are documented.

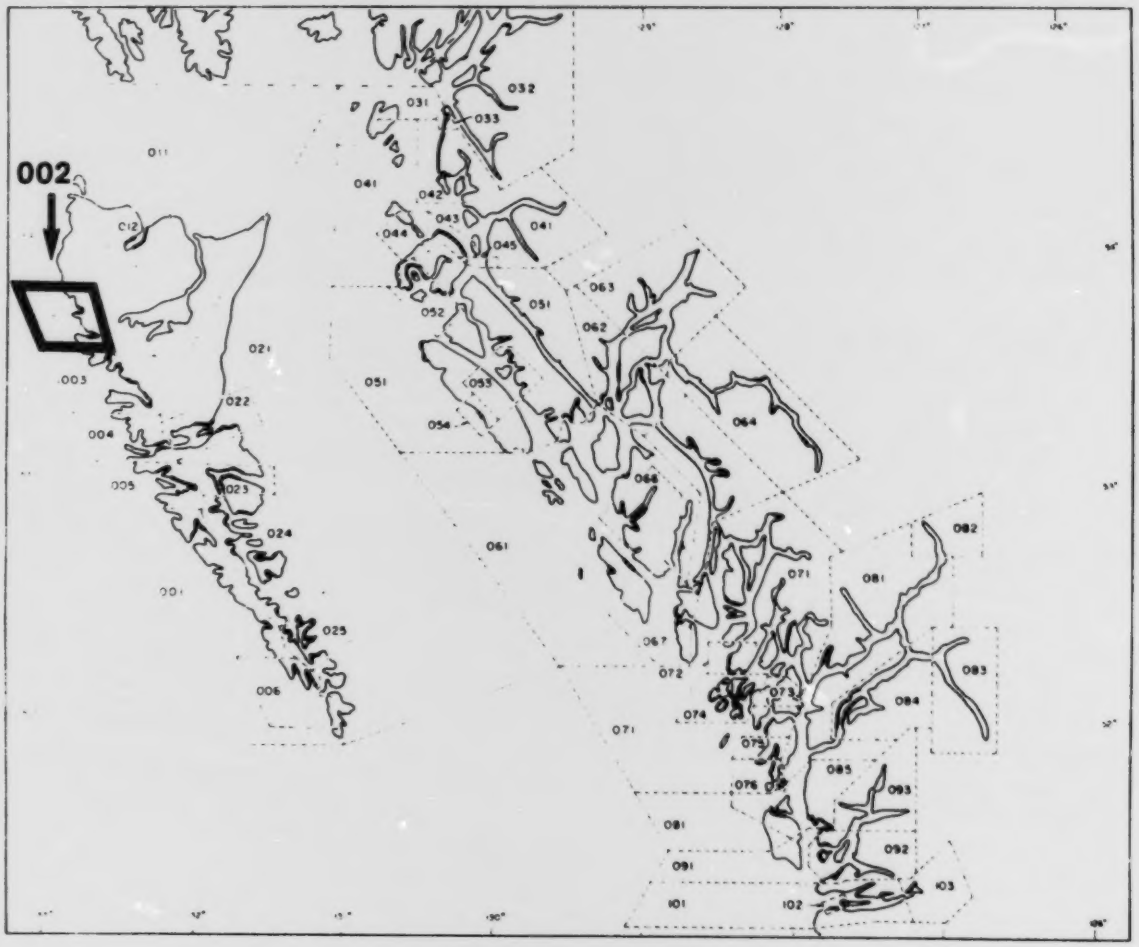

Fig. 002-1. Overview map showing location of section 002, Port Louis.

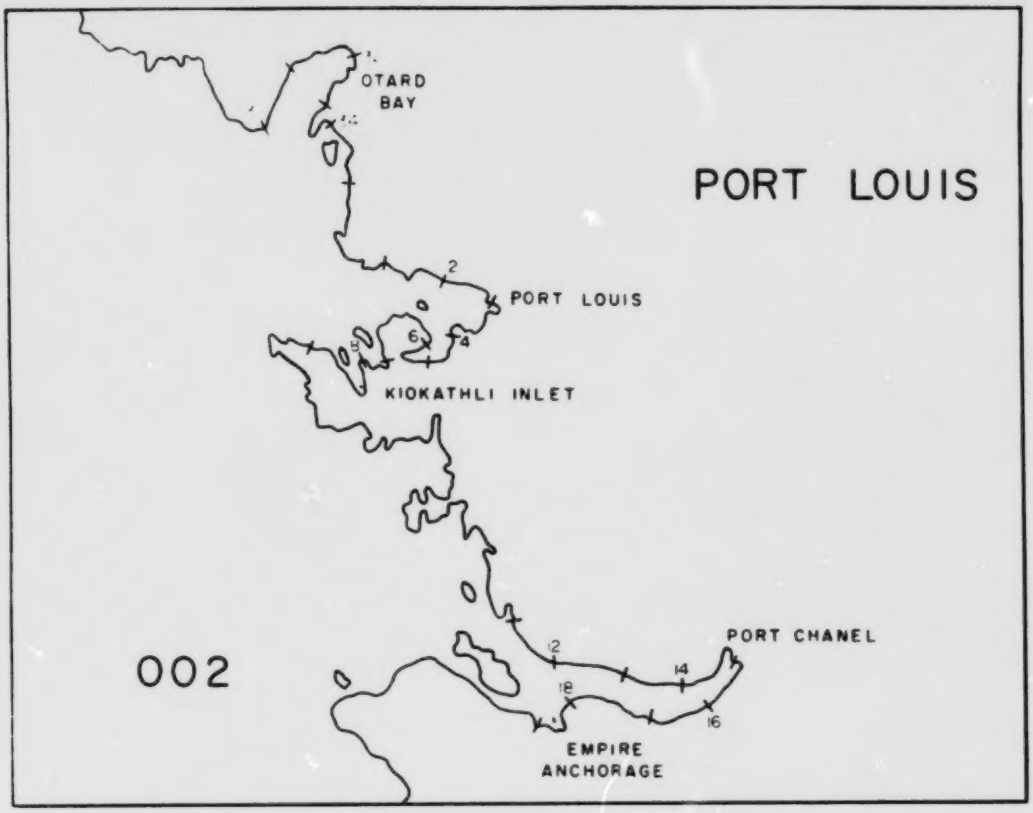

Fig. 002-2. Detailed map of section 002, Port Louis.

Table 002-1. Section 002 - spawn postion by year.

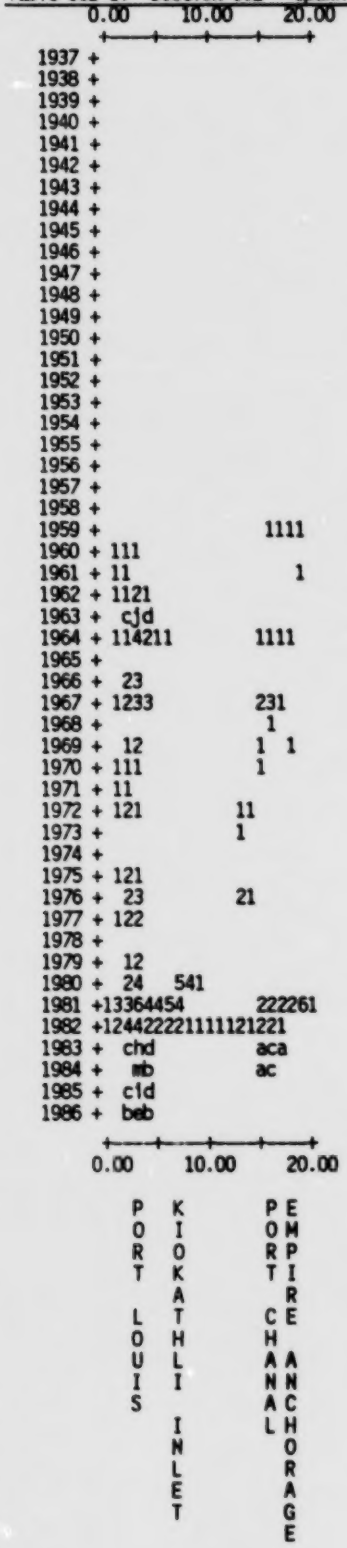

Table 002-2. Section 002 - Histogram of cumulative spawn frequency over distance

```
                    position(km)
                          0    5   10   15   20   25   30   35   40   45   50   55   60   65   70   75  vara varb varc  all
                          +----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+
                    0.00  +**                                                                              2    0    0    2
                    1.00  +****************                                                              15    0    0   15
                    2.00  +*****************************0000000000                                      29   11    0   40
PORT LOUIS          3.00  +****************************************0000000000000000000000000000000000x  39   45    0   84
                    4.00  +************00000000000000000                                               12   16    0   28
                    5.00  +*******                                                                       7    0    0    7
                    6.00  +********                                                                      8    0    0    8
KIOKATHLI INLET     7.00  +***********                                                                   11    0    0   11
                    8.00  +*****                                                                         5    0    0    5
                    9.00  +**                                                                            2    0    0    2
                   10.00  +*                                                                             1    0    0    1
                   11.00  +*                                                                             1    0    0    1
                   12.00  +*                                                                             1    0    0    1
                   13.00  +******                                                                        6    0    0    6
                   14.00  +***                                                                           3    0    0    3
                   15.00  +*********00                                                                    9    2    0   11
PORT CHANAL        16.00  +**********000000                                                              10    6    0   16
                   17.00  +******0                                                                       6    1    0    7
EMPIRE ANCHORAGE   18.00  +*****                                                                         5    0    0    5
                   19.00  +********                                                                      8    0    0    8
                   20.00  +*                                                                            1    0    0    1
                   21.00  +*                                                                            1    0    0    1
                   22.00  +                                                                             0    0    0    0
                   23.00  +                                                                             0    0    0    0
                   24.00  +                                                                             0    0    0    0
                   25.00  +                                                                             0    0    0    0
                   26.00  +                                                                             0    0    0    0
                   27.00  +                                                                             0    0    0    0
                   28.00  +                                                                             0    0    0    0
                   29.00  +IIIIIIIIII                                                                    0    0   10   10
OTARD BAY          30.00  +IIIIIIIIII                                                                    0    0   10   10
                   31.00  +                                                                             0    0    0    0
                          +----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+
                          0    5   10   15   20   25   30   35   40   45   50   55   60   65   70   75  vara varb varc  all
```

Table 002-3. Herring statistical spawn summary for section 002.

Year	Total records	Spawn index	Sum length	Av wid	Av int	Av date	SE date	Wt date	Min day	Max day	Ind day	Ind loc
1937	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1938	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1939	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1940	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1941	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1942	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1943	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1944	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1945	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1946	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1947	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1948	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1949	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1950	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1951	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1952	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1953	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1954	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1955	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1956	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1957	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1958	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1959	1	16848	3290	14	5.0	87.0	0.00	87.0	87	87	1	1
1960	1	8895	1737	23	5.0	90.0	0.00	90.0	90	90	1	1
1961	2	8194	1600	24	3.0	97.5	15.50	90.9	82	113	2	2
1962	2	18722	3656	69	5.0	82.5	0.50	82.5	82	83	2	1
1963	10	44000	8592	7	4.0	84.0	0.00	84.0	84	84	1	1
1964	7	28698	5604	7	1.6	86.0	0.00	86.0	86	86	1	2
1965	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1966	5	1541	301	23	1.0	90.0	0.00	90.0	90	90	1	1
1967	9	24156	4717	42	1.9	85.0	1.19	84.4	81	88	3	2
1968	1	138	27	5	3.0	100.0	0.00	100.0	100	100	1	1
1969	4	7256	1417	11	1.5	95.5	0.29	95.8	95	96	2	3
1970	3	7487	1462	16	3.7	98.3	3.84	100.4	91	104	3	2
1971	1	4681	914	3	1.0	95.0	0.00	95.0	95	95	1	1
1972	4	9361	1828	32	2.0	108.5	2.50	108.0	101	111	2	2
1973	1	3743	731	5	1.0	97.0	0.00	97.0	97	97	1	1
1974	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1975	2	6790	1326	8	3.0	97.0	0.00	97.0	97	97	1	1
1976	7	9013	1760	6	3.0	102.4	0.20	102.2	102	103	2	2
1977	3	8194	1600	5	1.0	94.0	0.00	94.0	94	94	1	1
1978	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1979	3	1265	247	17	2.3	91.3	2.67	88.1	86	94	2	1
1980	12	25917	5061	14	2.3	89.0	0.00	89.0	89	89	1	2
1981	29	81337	15883	21	0.0	80.9	1.80	80.7	74	94	2	2
1982	17	100638	19652	21	0.0	78.0	3.01	68.9	64	92	4	3
1983	17	64781	12650	31	0.0	67.7	1.87	69.1	62	83	4	3
1984	16	44809	8750	18	0.0	67.6	1.91	67.9	64	83	2	2
1985	9	44041	8600	24	0.0	78.0	0.00	78.0	78	78	1	1
1986	5	25784	5035	35	0.0	68.0	0.00	68.0	68	68	1	1
All	171	596289	116440	21	2.5	82.3	0.96	79.1	62	113	29	5

Table 002-4. Spawn summary for section 002 from 1937 to 1986.

A. GENERAL:

There are two main spawning areas:
(i) Port Louis and
(ii) Port Chanel and Otard Bay

B. COMPLETENESS OF RECORDS:

No records were available prior to 1959. Since then, there probably has been good reporting, especially in accessible areas.

C. SPAWNING CONSISTENCY OVER TIME: CONSTANT

If pooled among all localities, there has been a nearly constant annual annual record of spawnings since 1959 except for the years, 1965, 1974 and 1978.

D. MAGNITUDE OF SPAWNINGS: SMALL

1. NUMBER OF SPAWN YEARS/50 YEARS	= 25/50 (1937-86)
2. NUMBER OF SPAWN YEARS/DOCUMENTED YEARS	= 25/28 (1959-86)
3. CUMULATIVE SPAWN LENGTH	= 116.4 Km.
4. CUMULATIVE SPAWN AREA	= 59.6 ha.

E. SPAWNING TIME:

1. MEAN UNWEIGHTED DATE (DOY)	= March 23 (82.3)
2. MEAN WEIGHTED DATE (DOY)	= March 20 (79.1)

F. COMMENTS:

The relatively early spawnings in this section may be evidence of a relationship between these fish and the early spawning fish in Naden Harbour. It is conceivable that spawnings between section 002 and Naden Harbour might have occurred, (ie. in the vicinity of Langara Island) but not observed or reported. Based on their near continuous spawning record since 1959, the Port Louis herring may represent a small local stock with limited exchange between adjacent areas. The main spawning area is Port Louis, with periodic spawnings in Port Chanel and Otard Bay. Winter herring surveys show herring concentrations off the mouths of these inlets (McCarter and Hay, 1985).

G. ROE FISHERIES:

No major roe fisheries are documented.

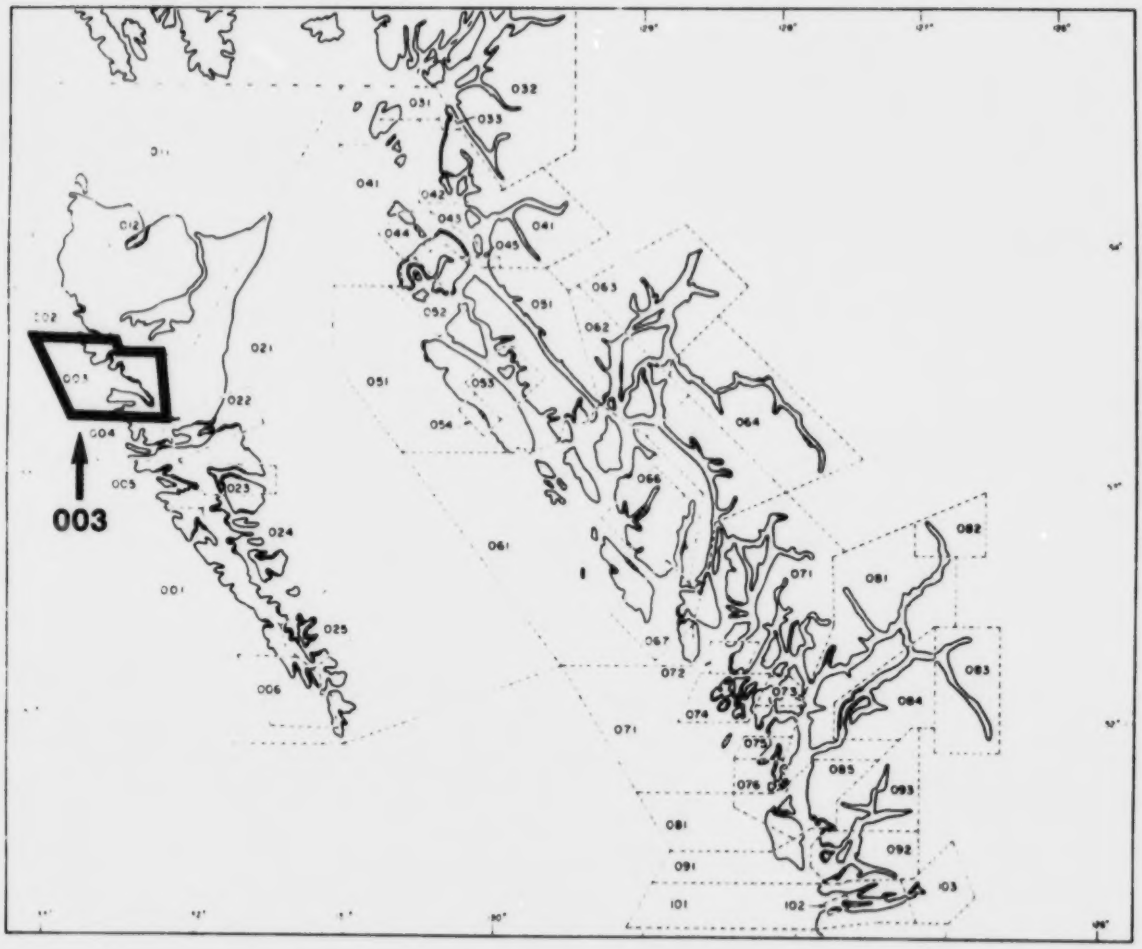

Fig. 003-1. Overview map showing location of section 003, Rennell Sound.

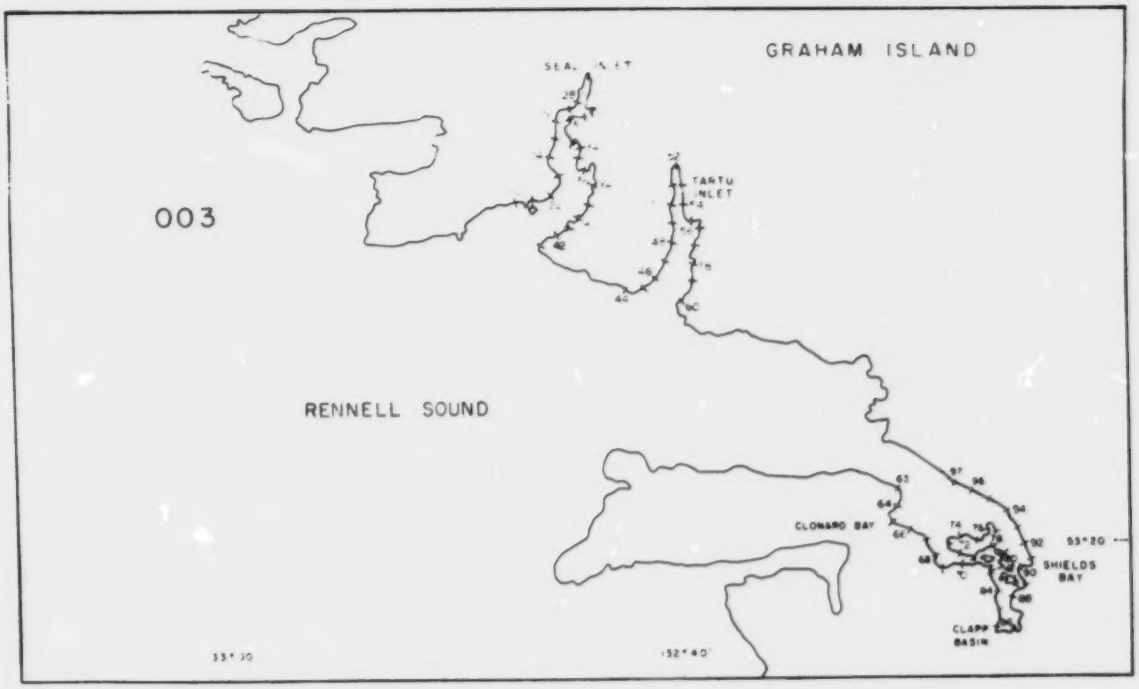

Fig. 003-2. Detailed map of section 003, Rennell Sound.

Table 003-1. Section 003 - spawn position by year.

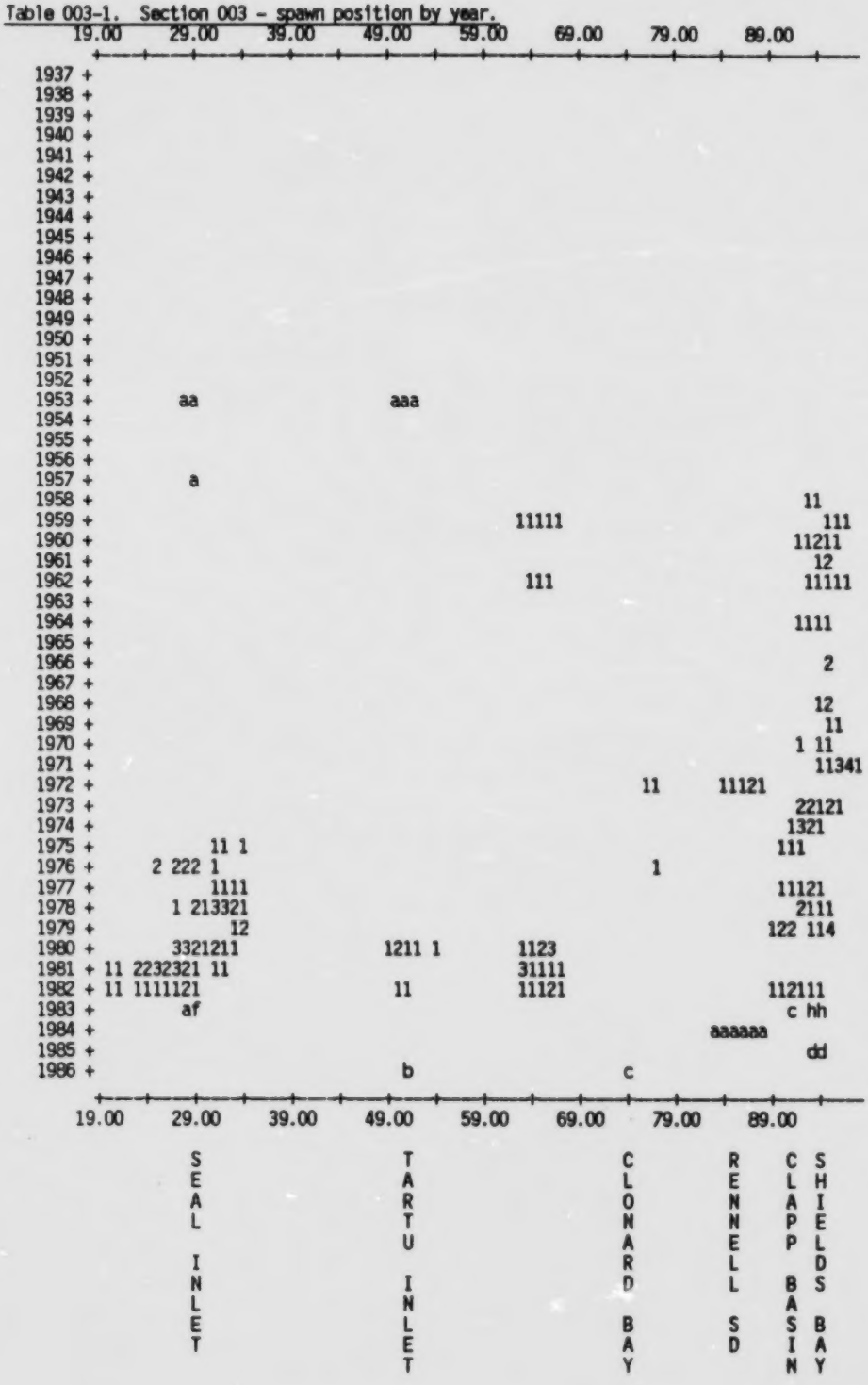

Table 003-2. Section 003 - Histogram of cumulative spawn frequency over distance.

	position(km) 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75	vara	varh	varc	all
	18.00 +	0	0	0	0
	19.00 +	0	0	0	0
	20.00 +**	2	0	0	2
	21.00 +**	2	0	0	2
	22.00 +	0	0	0	0
	23.00 +***	3	0	0	3
	24.00 +***	3	0	0	3
	25.00 +******	6	0	0	6
	26.00 +***	3	0	0	3
	27.00 +**********	10	0	0	10
	28.00 +**********00	9	2	0	11
SEAL INLET	29.00 +********00000000	8	8	0	16
	30.00 +**	2	0	0	2
	31.00 +*********	9	0	0	9
	32.00 +*******	7	0	0	7
	33.00 +*****	5	0	0	5
	34.00 +*****	5	0	0	5
	35.00 +	0	0	0	0
	36.00 +	0	0	0	0
	37.00 +	0	0	0	0
	38.00 +	0	0	0	0
	39.00 +	0	0	0	0
	40.00 +	0	0	0	0
	41.00 +	0	0	0	0
	42.00 +	0	0	0	0
	43.00 +	0	0	0	0
	44.00 +	0	0	0	0
	45.00 +	0	0	0	0
	46.00 +	0	0	0	0
	47.00 +	0	0	0	0
	48.00 +	0	0	0	0
	49.00 +*	1	0	0	1
	50.00 +***0	3	1	0	4
TARTU INLET	51.00 +**000	2	3	0	5
	0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75	vara	varh	varc	all

Table 003-2 (cont'd.)

		0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75	vara	varh	varc	all
	52.00	+*0	1	1	0	2
	53.00	+	0	0	0	0
	54.00	+*	1	0	0	1
	55.00	+	0	0	0	0
	56.00	+	0	0	0	0
	57.00	+	0	0	0	0
	58.00	+	0	0	0	0
	59.00	+	0	0	0	0
	60.00	+	0	0	0	0
	61.00	+	0	0	0	0
	62.00	+	0	0	0	0
	63.00	+******	6	0	0	6
	64.00	+*****	5	0	0	5
	65.00	+******	6	0	0	6
	66.00	+********	8	0	0	8
	67.00	+***	3	0	0	3
	68.00	+	0	0	0	0
	69.00	+	0	0	0	0
	70.00	+	0	0	0	0
	71.00	+	0	0	0	0
	72.00	+	0	0	0	0
	73.00	+	0	0	0	0
CLONARD BAY	74.00	+000	0	3	0	3
	75.00	+	0	0	0	0
	76.00	+*	1	0	0	1
	77.00	+**	2	0	0	2
	78.00	+	0	0	0	0
	79.00	+	0	0	0	0
	80.00	+	0	0	0	0
	81.00	+	0	0	0	0
	82.00	+	0	0	0	0
	83.00	+0	0	1	0	1
	84.00	+*0	1	1	0	2
RENNELL SOUND	85.00	+*0	1	1	0	2
	86.00	+*0	1	1	0	2
		0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75	vara	varh	varc	all

Table 003-2 (cont'd.)

		0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75	vara	varh	varc	all
	87.00	+**0	2	1	0	3
	88.00	+*0	1	1	0	2
	89.00	+**	2	0	0	2
	90.00	+*****	5	0	0	5
CLAPP BASIN	91.00	+*******000	7	3	0	10
	92.00	+**********	13	0	0	13
	93.00	+**********0000000000	13	12	0	25
SHIELDS BAY	94.00	+**********0000000000	15	12	0	27
	95.00	+**********	20	0	0	20
	96.00	+********	8	0	0	8
	97.00	+******	6	0	0	6
	98.00	+*	1	0	0	1
	99.00	+	0	0	0	0
		0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75	vara	varh	varc	all

Table 003-3. Herring statistical spawn summary for section 003.

Year	Total records	Spawn index	Sum length	Av wid	Av int	Av date	SE date	Wt date	Min day	Max day	Ind day	Ind loc
1937	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1938	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1939	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1940	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1941	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1942	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1943	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1944	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1945	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1946	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1947	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1948	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1949	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1950	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1951	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1952	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1953	2	12033	2084	23	5.0	101.0	0.00	101.0	101	101	1	2
1954	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1955	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1956	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1957	1	1057	183	5	3.0	91.0	0.00	91.0	91	91	1	1
1958	1	4642	804	5	4.0	91.0	0.00	91.0	91	91	1	1
1959	3	28495	4935	6	5.0	84.0	0.00	84.0	84	84	1	1
1960	2	21635	3747	11	5.5	88.0	2.00	88.2	86	90	2	1
1961	2	11871	2056	11	4.0	87.0	0.00	87.0	87	87	1	1
1962	2	37999	6581	14	3.0	81.0	0.00	81.0	81	81	1	2
1963	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1964	2	12824	2221	12	4.0	86.5	1.50	85.2	85	88	2	2
1965	1	5277	914	9	5.0	80.0	0.00	80.0	80	80	1	1
1966	2	791	137	4	1.0	91.0	0.00	91.0	91	91	1	1
1967	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1968	3	2644	458	6	3.0	105.0	0.00	105.0	105	105	1	1
1969	1	4752	823	27	5.0	98.0	0.00	98.0	98	98	1	1
1970	3	8967	1553	8	3.0	92.0	0.00	92.0	92	92	1	1
1971	6	19262	3336	19	3.7	104.8	0.17	104.6	104	105	2	2
1972	5	11877	2057	8	3.0	112.0	0.00	112.0	112	112	1	1
1973	4	25331	4387	15	4.8	96.8	0.25	96.9	96	97	2	2
1974	4	14244	2467	18	5.3	92.0	0.00	92.0	92	92	1	1
1975	3	19210	3327	6	4.3	103.3	1.33	104.2	102	106	2	2
1976	9	9764	1691	6	4.3	102.1	0.11	102.2	102	103	2	2
1977	7	17414	3016	5	2.9	96.1	0.40	95.7	95	97	2	3
1978	14	49073	8499	4	3.4	97.9	0.50	97.3	95	99	2	2
1979	13	12241	2120	17	3.8	103.6	0.73	104.8	99	105	2	3
1980	18	46128	7989	6	1.3	100.8	2.47	98.5	90	111	3	3
1981	16	51770	8966	9	0.0	93.3	0.12	93.3	93	94	2	2
1982	15	64132	11107	12	0.0	94.9	4.47	100.0	78	118	4	5
1983	17	52543	9100	10	0.0	89.6	1.55	89.9	85	98	2	3
1984	1	28870	5000	5	0.0	81.0	0.00	81.0	81	81	1	1
1985	4	21941	3800	10	0.0	94.0	0.00	94.0	94	94	1	1
1986	5	8661	1500	9	0.0	100.0	2.47	101.3	95	106	4	2
All	166	605450	104858	10	3.4	96.7	0.71	94.0	78	118	27	7

Table 003-4. Spawn summary for section 003 from 1937 to 1986.

A. GENERAL:

There are two main spawning areas:
(i) Rennell Sound (Shields Bay, Clapp Basin) and
(ii) Seal Inlet (and Tartu Inlet)

B. COMPLETENESS OF RECORDS:

Although a few records are available in earlier years, 1959 appears to be the year of systematic recording. It is not clear whether the absence of records in Seal Inlet, prior to 1975, represents incomplete data or no spawnings.

C. SPAWNING CONSISTENCY OVER TIME: CONSTANT

If pooled among all localities, there has been a nearly constant annual record of spawnings since 1959 except for the years, 1963 and 1967.

D. MAGNITUDE OF SPAWNINGS: SMALL

1. NUMBER OF SPAWN YEARS/50 YEARS	= 29/50 (1937-86)
2. NUMBER OF SPAWN YEARS/DOCUMENTED YEARS	= 29/34 (1953-86)
3. CUMULATIVE SPAWN LENGTH	= 104.9 Km.
4. CUMULATIVE SPAWN AREA	= 60.5 ha.

E. SPAWNING TIME:

1. MEAN UNWEIGHTED DATE (DOY)	= April 7 (96.7)
2. MEAN WEIGHTED DATE (DOY)	= April 4 (94.0)

F. COMMENTS:

Rennell Sound could represent a small local stock with a nearly constant record of spawning, mainly in Shields Bay. The mean spawning times are about 2 weeks later than the Port Louis fish to the north.

G. ROE FISHERIES:

1. NUMBER OF SEINE FISHERY YEARS/15 YEARS	= 6/15 (1972-86)
2. NUMBER OF GILLNET FISHERY YEARS/15 YEARS	= 1/15 (1972-86)
3. MEAN SEINE CATCH/YEAR	= 413 tons
4. MEAN GILLNET CATCH/YEAR	= 17 tons

Table 003-5. History of roe fishery catches by gear type in Rennell Sound.

SECT. 003	SEINE NET ROE FISHERIES				GILLNET ROE FISHERIES			
YEAR	DATE OPEN (D/Mo)	TIME OPEN (hrs)	HAILED CATCH (Tons)	FISHING AREA	DATE OPEN (D/Mo)	TIME OPEN (hrs)	HAILED CATCH (Tons)	FISHING AREA
1972	-	-	-	-	-	-	-	-
1973	-	-	-	-	-	-	-	-
1974	31/03-02/04	48	525	Rennell Snd.	02/04	-	17	Rennell Snd.
1975	04/04	-	519	Rennell Snd.	-	-	-	-
1976	04/04-05/04	-	220	Rennell Snd.	-	-	-	-
1977	-	-	-	-	-	-	-	-
1978	-	-	-	-	-	-	-	-
1979	29/03	0.1	100	Seal Inlet	-	-	-	-
1980	-	-	-	-	-	-	-	-
1981	25/03	3.8	580	Shields Bay	-	-	-	-
1982	22/03	0.2	542	Skelu Bay, Seal & Tartu Inlets	-	-	-	-
1983	-	-	-	-	-	-	-	-
1984	-	-	-	-	-	-	-	-
1985	-	-	-	-	-	-	-	-
1986	-	-	-	-	-	-	-	-

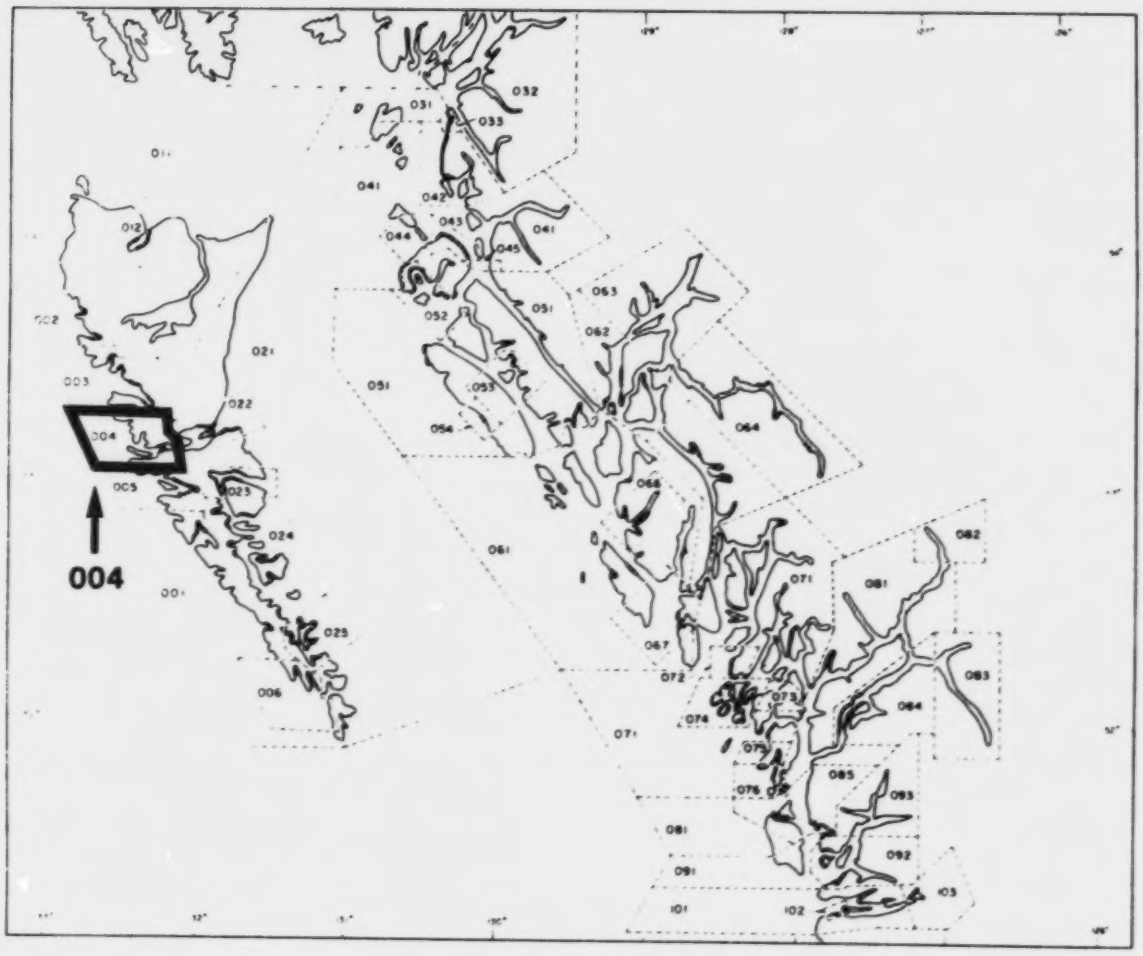

Fig. 004-1. Overview map showing location of section 004, Cartwright Sound.

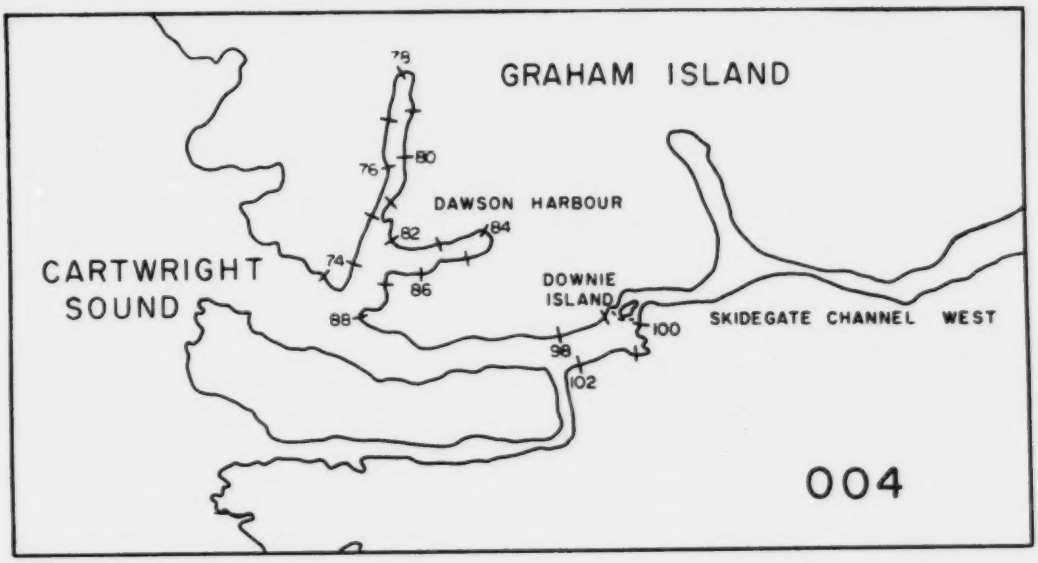

Fig. 004-2. Detailed map of section 004, Cartwright Sound.

Table 004-1. Section 004 - spawn position by year.

Table 004-2. Section 004 - Histogram of cumulative spawn frequency over distance

	position(km)	0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75	vara	varh	varc	all
	73.00	+	0	0	0	0
	74.00	+IIIII	0	0	5	5
DAWSON HARBOUR	75.00	+IIIII	0	0	5	5
	76.00	+	0	0	0	0
	77.00	+	0	0	0	0
	78.00	+	0	0	0	0
	79.00	+	0	0	0	0
	80.00	+	0	0	0	0
	81.00	+	0	0	0	0
	82.00	+	0	0	0	0
	83.00	+	0	0	0	0
	84.00	+	0	0	0	0
	85.00	+	0	0	0	0
	86.00	+	0	0	0	0
	87.00	+	0	0	0	0
	88.00	+	0	0	0	0
	89.00	+	0	0	0	0
	90.00	+	0	0	0	0
	91.00	+	0	0	0	0
	92.00	+	0	0	0	0
	93.00	+	0	0	0	0
	94.00	+	0	0	0	0
	95.00	+	0	0	0	0
	96.00	+0	0	1	0	1
	97.00	+00	0	2	0	2
SKIDEGATE CHAN. WEST	98.00	+***00	3	2	0	5
	99.00	+*********000000	8	6	0	14
DOWNIE ISLAND	100.00	+**00000000	2	8	0	10
	101.00	+***	3	0	0	3
	102.00	+	0	0	0	0
	103.00	+	0	0	0	0
		0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75	vara	varh	varc	all

Table 004-3. Herring statistical spawn summary for section 004.

Year	Total records	Spawn index	Sum length	Av wid	Av int	Av date	SE date	Wt date	Min day	Max day	Ind day	Ind loc
1937	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1938	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1939	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1940	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1941	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1942	1	18157	4570	18	5.0	0.0	0.00	109.0	0	0	0	1
1943	1	9440	2376	27	5.0	117.0	0.00	117.0	117	117	1	1
1944	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1945	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1946	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1947	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1948	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1949	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1950	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1951	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1952	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1953	1	1923	484	9	5.0	101.0	0.00	101.0	101	101	1	1
1954	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1955	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1956	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1957	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1958	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1959	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1960	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1961	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1962	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1963	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1964	1	2686	676	27	3.0	84.0	0.00	84.0	84	84	1	1
1965	1	1816	457	5	3.0	110.0	0.00	110.0	110	110	1	1
1966	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1967	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1968	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1969	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1970	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1971	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1972	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1973	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1974	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1975	1	3631	914	6	4.0	109.0	0.00	109.0	109	109	1	1
1976	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1977	1	4358	1097	11	1.0	97.0	0.00	97.0	97	97	1	1
1978	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1979	2	2543	640	3	1.0	107.0	0.00	107.0	107	107	1	1
1980	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1981	10	8896	2239	8	0.0	96.0	0.00	96.0	96	96	1	2
1982	3	6536	1645	5	0.0	97.0	0.00	97.0	97	97	1	1
1983	5	7747	1950	25	0.0	109.0	0.00	109.0	109	109	1	1
1984	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1985	1	795	200	7	0.0	102.0	0.00	102.0	102	102	1	1
1986	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
All	28	68526	17248	12	3.1	101.1	1.41	105.2	84	117	9	3

Table 004-4. Spawn summary for section 004 from 1937 to 1986.

A. GENERAL:

There is only one spawning area at the west entrance to Skidegate Channel (Downie Island).

B. COMPLETENESS OF RECORDS:

The 50 year record should be reasonably complete considering there is access to the area from Queen Charlotte City/Sandspit. Some spawns, however, may have been unreported.

C. SPAWNING CONSISTENCY OVER TIME: INFREQUENT

There have been intermittent spawnings since 1937.

D. MAGNITUDE OF SPAWNINGS: VERY SMALL

1. NUMBER OF SPAWN YEARS/50 YEARS	= 12/50 (1937-86)
2. NUMBER OF SPAWN YEARS/DOCUMENTED YEARS	= 12/50 (1937-86)
3. CUMULATIVE SPAWN LENGTH	= 17.3 Km.
4. CUMULATIVE SPAWN AREA	= 6.9 ha.

E. SPAWNING TIME:

1. MEAN UNWEIGHTED DATE (DOY)	= April 11 (101.1)
2. MEAN WEIGHTED DATE (DOY)	= April 15 (105.2)

F. COMMENTS:

Spawning is too infrequent for a resident stock. It is likely that fish spawning in this vicinity originated from larger spawning stocks of Rennell Sound to the North, Englefield Bay to the South and Skidegate Inlet to the East.

G. ROE FISHERIES:

No major roe fisheries are documented.

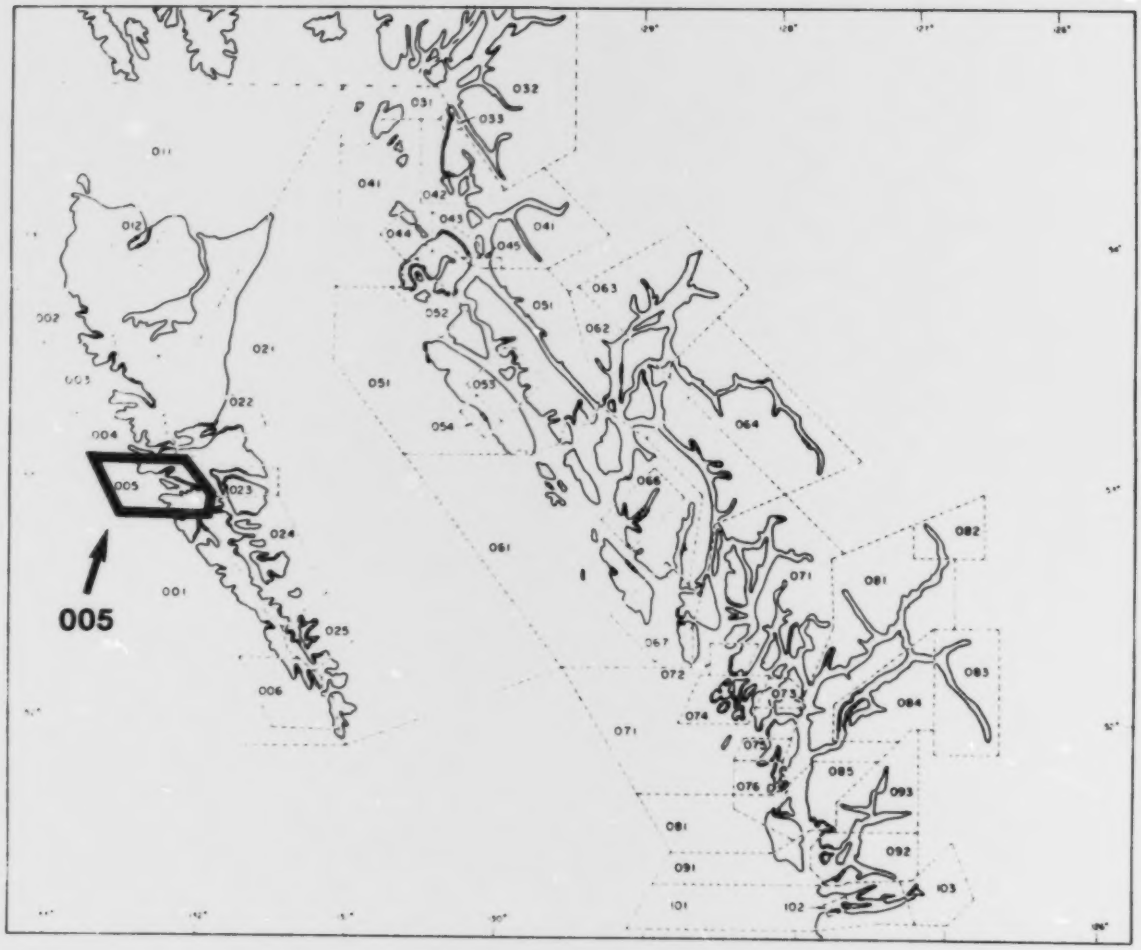

Fig. 005-1. Overview map showing location of section 005, Englefield Bay.

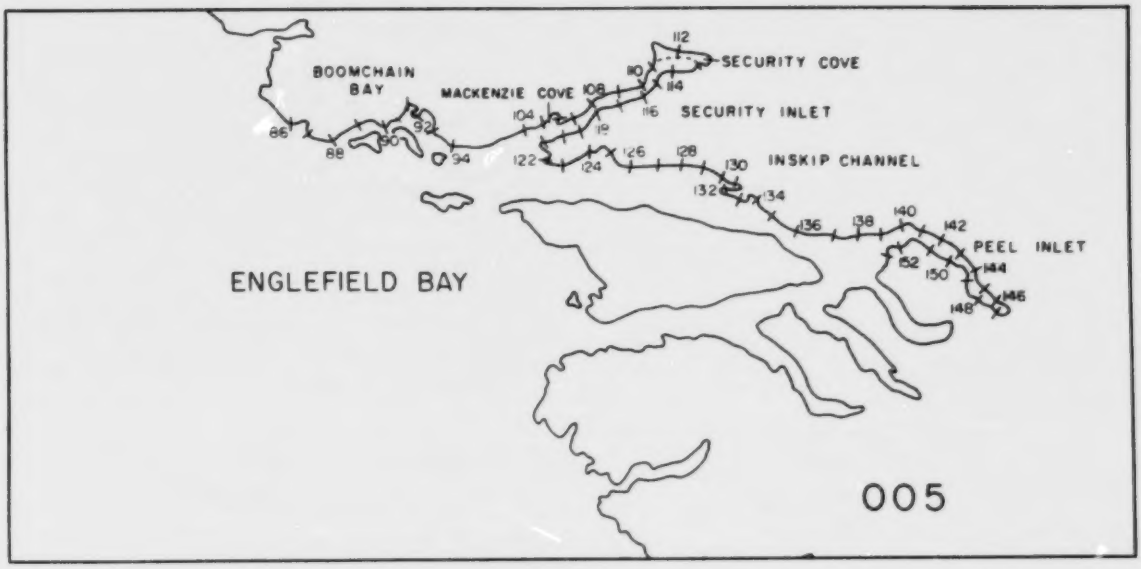

Fig. 005-2. Detailed map of section 005, Englefield Bay.

Table 005-1. Section 005 - spawn position by year.

```
     104.00    114.00    124.00    134.00    144.00
       +---+---+---+---+---+---+---+---+---+---+---
1937 +
1938 +
1939 +
1940 +
1941 +
1942 +
1943 +
1944 +
1945 +
1946 +
1947 +
1948 +
1949 +
1950 +
1951 +
1952 +
1953 +
1954 +
1955 +
1956 +
1957 +
1958 +       1
1959 +                              1111
1960 +                               1
1961 + 11
1962 + 11    1   1
1963 +
1964 + a 1
1965 +  111
1966 + 1
1967 + 21
1968 + 21
1969 +    1                          1111
1970 +                             1 221113
1971 + 21                          1  1112
1972 + 11                         121 12 212
1973 +                           121 1$aa
1974 + 11 1121331                      2311
1975 +                           11     11111
1976 +                           2111111111
1977 +                                2111112111
1978 +                           111    21221
1979 +                                131 132
1980 +                              211   2143221        1
1981 +                                 1 221
1982 +                                23122$$
1983 +                                 bic
1984 +                                 adba
1985 +                                abccaa
1986 +                                 afc
     +---+---+---+---+---+---+---+---+---+---+---
   104.00    114.00    124.00    134.00    144.00

     BM    SS                      I   P
     OC    EE                      N   E
     OK    CC                      S   E
     ME    UU                      K   L
     CN    RR                      I
     HZ    II                      P   I
     AI    TT                          N
     IE    YY                      C   L
     N                             H   E
      C    IC                      A   T
     BO    NO                      N
     AV    LV
     /E    /E
```

Table 005-2. Section 005 - Histogram of cumulative spawn frequency over distance

	position(km) 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75	vara	varh	varc	all
	103.00 +	0	0	0	0
	104.00 +	0	0	0	0
BOOMCHAIN BA/MCKENZIE COV	105.00 +**********0	11	1	0	12
	106.00 +********	8	0	0	8
	107.00 +**	2	0	0	2
	108.00 +***	3	0	0	3
	109.00 +*	1	0	0	1
	110.00 +**	2	0	0	2
SECURITY INL/SECURITY COV	111.00 +***	3	0	0	3
	112.00 +***	3	0	0	3
	113.00 +***	3	0	0	3
	114.00 +*	1	0	0	1
	115.00 +*	1	0	0	1
	116.00 +	0	0	0	0
	117.00 +	0	0	0	0
	118.00 +	0	0	0	0
	119.00 +	0	0	0	0
	120.00 +	0	0	0	0
	121.00 +	0	0	0	0
	122.00 +	0	0	0	0
	123.00 +	0	0	0	0
	124.00 +	0	0	0	0
	125.00 +	0	0	0	0
	126.00 +	0	0	0	0
	127.00 +*	1	0	0	1
	128.00 +****	4	0	0	4
	129.00 +*****	5	0	0	5
	130.00 +********	8	0	0	8
	131.00 +*****	5	0	0	5
	132.00 +***	3	0	0	3
	133.00 +**********0	13	1	0	14
	134.00 +**********0000000	19	7	0	26
INSKIP CHANNEL	135.00 +**********00000000000000000000000	12	23	0	35
	136.00 +**********000000000000	20	12	0	32
	0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75	vara	varh	varc	all

Table 005-2 (cont'd).

		0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75	vara	varh	varc	all
	137.00	+**********00	15	2	0	17
	138.00	+**********00	21	2	0	23
PEEL INLET	139.00	+*********00	9	2	0	11
	140.00	+***	3	0	0	3
	141.00	+***	3	0	0	3
	142.00	+**	2	0	0	2
	143.00	+	0	0	0	0
	144.00	+	0	0	0	0
	145.00	+	0	0	0	0
	146.00	+	0	0	0	0
	147.00	+	0	0	0	0
	148.00	+	0	0	0	0
	149.00	+	0	0	0	0
	150.00	+	0	0	0	0
	151.00	+*	1	0	0	1
	152.00	+	0	0	0	0
	153.00	+	0	0	0	0
		0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75	vara	varh	varc	all

Table 005-3. Herring statistical spawn summary for section 005.

Year	Total records	Spawn index	Sum length	Av wid	Av int	Av date	SE date	Wt date	Min day	Max day	Ind day	Ind loc
1937	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1938	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1939	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1940	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1941	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1942	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1943	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1944	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1945	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1946	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1947	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1948	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1949	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1950	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1951	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1952	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1953	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1954	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1955	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1956	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1957	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1958	1	1673	229	3	1.0	95.0	0.00	95.0	95	95	1	1
1959	1	26714	3656	7	4.0	100.0	0.00	100.0	100	100	1	1
1960	1	1673	229	32	6.0	95.0	0.00	95.0	95	95	1	1
1961	1	10018	1371	27	3.0	87.0	0.00	87.0	87	87	1	1
1962	3	9353	1280	11	2.3	87.0	0.58	86.7	86	88	3	2
1963	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1964	2	4348	595	23	3.0	93.5	11.50	96.1	82	105	2	2
1965	1	11355	1554	9	5.0	103.0	0.00	103.0	103	103	1	1
1966	1	665	91	9	1.0	104.0	0.00	104.0	104	104	1	1
1967	2	3339	457	12	5.0	86.0	0.00	86.0	86	86	1	1
1968	3	2338	320	9	3.0	95.0	8.00	96.2	79	103	2	1
1969	2	21037	2879	7	3.0	102.0	5.00	106.5	97	107	2	2
1970	8	20365	2787	6	4.4	93.0	0.00	93.0	93	93	1	1
1971	7	16353	2238	9	3.3	102.0	0.00	102.0	102	102	1	2
1972	9	45077	6169	12	4.8	115.0	2.00	114.6	107	119	2	2
1973	4	44945	6151	8	4.0	99.0	0.00	99.0	99	99	1	1
1974	12	73128	10008	9	4.0	91.6	2.27	87.1	80	99	3	3
1975	2	40072	5484	9	4.0	106.0	0.00	106.0	106	106	1	1
1976	5	48752	6672	6	4.2	103.0	0.00	103.0	103	103	1	1
1977	5	52428	7175	16	5.0	95.0	0.00	95.0	95	95	1	1
1978	4	52092	7129	9	3.5	90.0	0.00	90.0	90	90	1	1
1979	11	7336	1004	12	3.6	88.0	0.00	88.0	88	88	1	2
1980	13	47284	6471	7	3.4	87.5	1.07	86.8	82	94	3	1
1981	3	25377	3473	9	0.0	91.0	0.00	91.0	91	91	1	1
1982	10	71916	9842	27	0.0	95.0	0.00	95.0	95	95	1	2
1983	9	56995	7800	14	0.0	97.0	0.00	97.0	97	97	1	1
1984	4	39092	5350	11	0.0	97.0	0.00	97.0	97	97	1	1
1985	3	59917	8200	8	0.0	92.3	0.67	92.5	91	93	2	1
1986	6	40189	5500	13	0.0	105.0	0.00	105.0	105	105	1	1
All	133	833831	114114	12	3.8	95.8	0.73	96.6	79	119	22	6

Table 005-4. Spawn summary for section 005 from 1937 to 1986.

A. GENERAL:

There are two spawning areas in Englefield Bay:
(i) Inskip Channel-Peel Inlet (major area) and
(ii) Security Cove (minor area)

B. COMPLETENESS OF RECORDS:

Probably all spawning records prior to 1958 are incomplete.

C. SPAWNING CONSISTENCY OVER TIME: CONSTANT

If pooled among all localities, there has been a nearly constant annual record of spawnings since 1958 except for the year, 1963.

D. MAGNITUDE OF SPAWNINGS: SMALL

1. NUMBER OF SPAWN YEARS/50 YEARS	= 28/50 (1937-86)
2. NUMBER OF SPAWN YEARS/DOCUMENTED YEARS	= 28/29 (1958-86)
3. CUMULATIVE SPAWN LENGTH	= 114.1 Km.
4. CUMULATIVE SPAWN AREA	= 83.4 ha.

E. SPAWNING TIME:

1. MEAN UNWEIGHTED DATE (DOY)	= April 6 (95.8)
2. MEAN WEIGHTED DATE (DOY)	= April 7 (96.6)

F. COMMENTS:

Spawning records are nearly constant (28 out of 29 years) from 1958 to 1986, which is evidence for a small resident herring stock. Mean spawning time, however, is nearly identical with those in Rennell Sound.

G. ROE FISHERIES:

1. NUMBER OF SEINE FISHERY YEARS/15 YEARS	= 6/15 (1972-86)
2. NUMBER OF GILLNET FISHERY YEARS/15 YEARS	= 0/15 (1972-86)
3. MEAN SEINE CATCH/YEAR	= 726 tons
4. MEAN GILLNET CATCH/YEAR	= 0 tons

Table 005-5. History of roe fishery catches by gear type in Englefield Bay.

SECT. 005	SEINE NET ROE FISHERIES				GILLNET ROE FISHERIES			
YEAR	DATE OPEN (D/Mo)	TIME OPEN (hrs)	HAILED CATCH (Tons)	FISHING AREA	DATE OPEN (D/Mo)	TIME OPEN (hrs)	HAILED CATCH (Tons)	FISHING AREA
1972	-	-	-	-	-	-	-	-
1973	-	-	-	-	-	-	-	-
1974	31/03-02/04	48	70	sect. 005	-	-	-	-
1975	-	-	-	-	-	-	-	-
1976	-	-	-	-	-	-	-	-
1977	-	-	-	-	-	-	-	-
1978	28/03	10	840	Inskip Ch.	-	-	-	-
1979	28/03	5.4	800	Inskip Ch.	-	-	-	-
1980	-	-	-	-	-	-	-	-
1981	21/03	4.2	420	Inskip Ch.	-	-	-	-
1982	20/03	6.3	757	Inskip Ch.	-	-	-	-
1983	21/03	11	1470	Inskip Ch. & Peel Inlet	-	-	-	-
1984	-	-	-	-	-	-	-	-
1985	-	-	-	-	-	-	-	-
1986	-	-	-	-	-	-	-	-

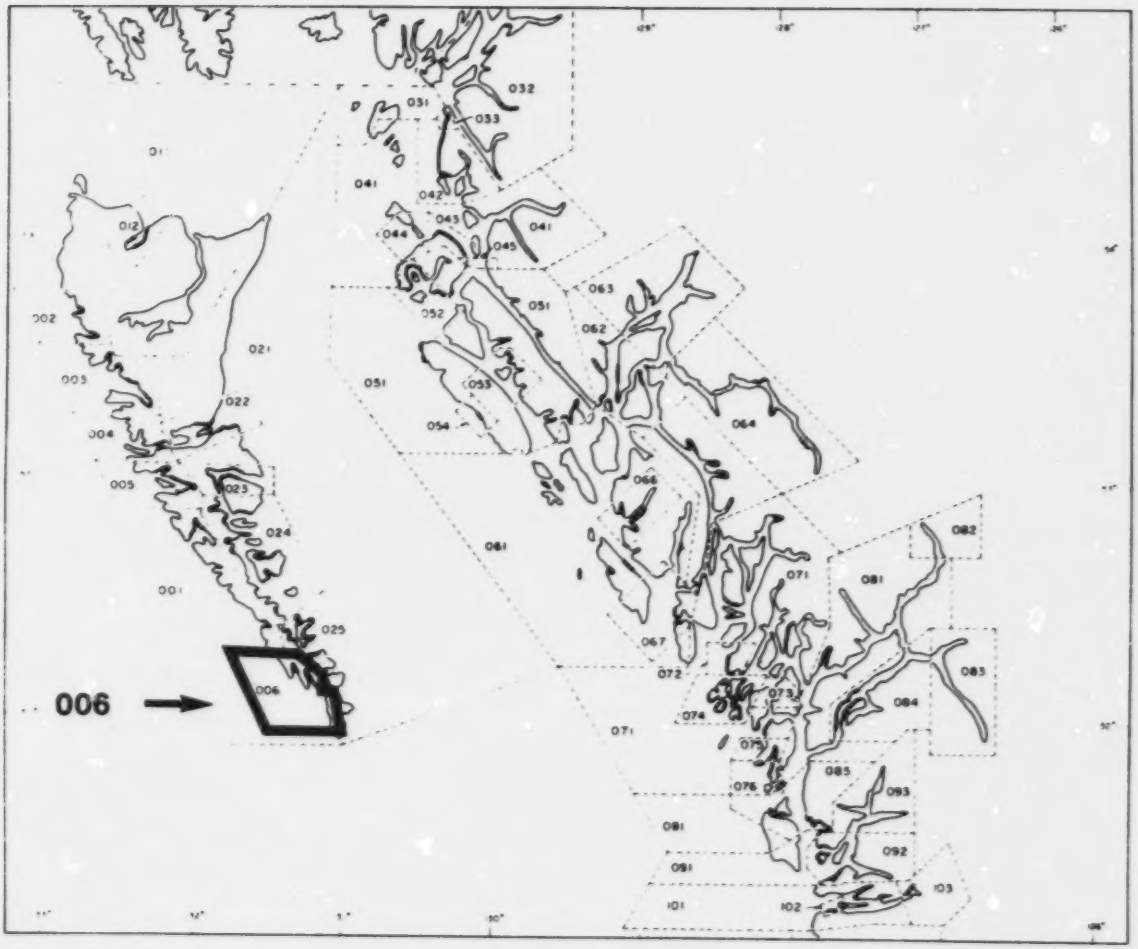

Fig. 006-1. Overview map showing location of section 006, Louscoone Inlet.

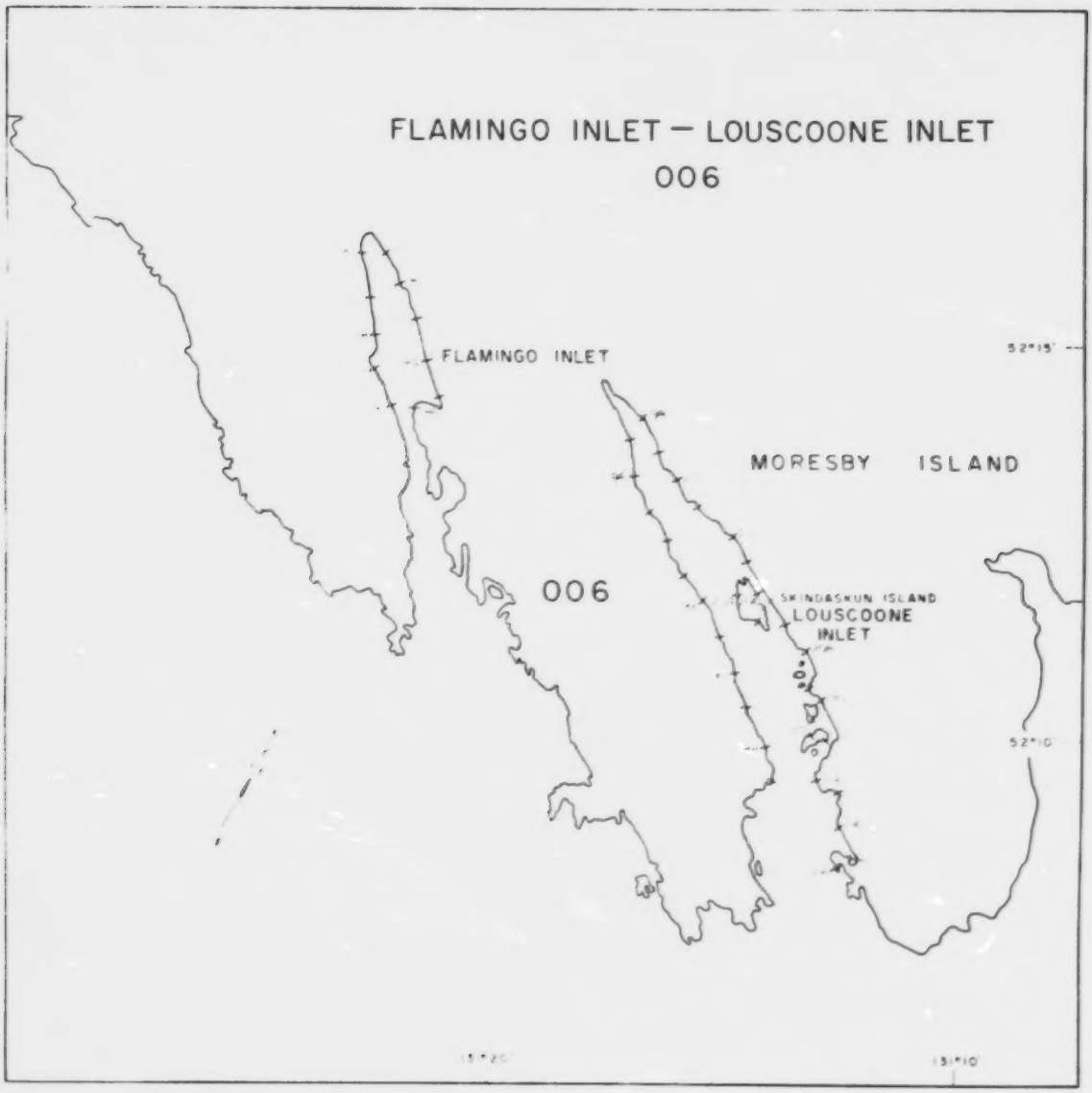

Fig. 006-2. Detailed map of section 006, Louscoone Inlet.

Table 006-1. Section 006 - spawn position by year.

Table 006-2. Section 006 - Histogram of cumulative spawn frequency over distance.

```
                    position(km)
                          0    5   10   15   20   25   30   35   40   45   50   55   60   65   70   75  vara varh varc  all
                          +----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+
                  174.00  +                                                                               0    0    0    0
                  175.00  +                                                                               0    0    0    0
                  176.00  +*                                                                              1    0    0    1
                  177.00  +***                                                                            3    0    0    3
                  178.00  +***                                                                            3    0    0    3
                  179.00  +**                                                                             2    0    0    2
FLAMINGO INLET    180.00  +*0                                                                             1    1    0    2
                  181.00  +*                                                                              1    0    0    1
                  182.00  +**                                                                             2    0    0    2
                  183.00  +**                                                                             2    0    0    2
                  184.00  +****                                                                           4    0    0    4
                  185.00  +                                                                               0    0    0    0
                  186.00  +                                                                               0    0    0    0
                  187.00  +                                                                               0    0    0    0
                  188.00  +                                                                               0    0    0    0
                  189.00  +*                                                                              1    0    0    1
                  190.00  +*                                                                              1    0    0    1
                  191.00  +**                                                                             2    0    0    2
                  192.00  +****                                                                           4    0    0    4
                  193.00  +*************                                                                  13    0    0   13
                  194.00  +***********                                                                    11    0    0   11
                  195.00  +*****************                                                              17    0    0   17
                  196.00  +*****************                                                              17    0    0   17
                  197.00  +********                                                                       8    0    0    8
                  198.00  +*****                                                                          5    0    0    5
                  199.00  +********************                                                          20    0    0   20
                  200.00  +******************00                                                          18    2    0   20
                  201.00  +************************00000000000                                          25   11    0   36
LOUSCOONE INLET   202.00  +***************000000000000000000000000000000                               15   27    0   42
                  203.00  +***************0000                                                          15    4    0   19
SKINDASKUN ISLAND 204.00  +*****************                                                            16    0    0   16
                  205.00  +**************                                                               14    0    0   14
                  206.00  +***********                                                                  11    0    0   11
                  207.00  +*********                                                                    9    0    0    9
                          0    5   10   15   20   25   30   35   40   45   50   55   60   65   70   75  vara varh varc  all
                          +----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+
```

Table 006-2 (cont'd.)

	0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75	vara	varh	varc	all
208.00	+*********	9	0	0	9
209.00	+**********	12	0	0	12
210.00	+*********	9	0	0	9
211.00	+*********	9	0	0	9
212.00	+********	8	0	0	8
213.00	+**	2	0	0	2
214.00	+	0	0	0	0
	0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75	vara	varh	varc	all

Table 006-3. Herring statistical spawn summary for section 006.

Year	Total records	Spawn index	Sum length	Av wid	Av int	Av date	SE date	Wt date	Min day	Max day	Ind day	Ind loc
1937	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1938	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1939	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1940	1	17982	1609	0	5.0	89.0	0.00	89.0	89	89	1	1
1941	1	17982	1609	0	5.0	88.0	0.00	88.0	88	88	1	1
1942	1	30645	2742	18	7.0	91.0	0.00	91.0	91	91	1	1
1943	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1944	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1945	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1946	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1947	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1948	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1949	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1950	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1951	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1952	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1953	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1954	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1955	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1956	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1957	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1958	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1959	1	35752	3199	9	5.0	97.0	0.00	97.0	97	97	1	1
1960	3	68442	6124	34	7.0	97.7	0.33	97.8	97	98	2	1
1961	3	80702	7221	5	4.3	83.0	0.00	83.0	83	83	1	1
1962	1	30645	2742	14	5.0	96.0	0.00	96.0	96	96	1	1
1963	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1964	4	53120	4753	15	4.5	62.0	1.73	62.9	59	67	3	1
1965	2	20430	1828	9	3.0	79.0	0.00	79.0	79	79	1	1
1966	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1967	1	771	69	5	2.0	84.0	0.00	84.0	84	84	1	1
1968	1	5107	457	9	1.0	102.0	0.00	102.0	102	102	1	1
1969	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1970	3	10226	915	49	4.3	95.0	1.53	95.3	93	98	3	1
1971	1	62921	5630	23	4.0	114.0	0.00	114.0	114	114	1	1
1972	15	90436	8092	14	4.7	87.5	0.59	86.8	80	89	3	1
1973	12	180291	16132	11	4.8	91.0	0.00	91.0	91	91	1	1
1974	3	129731	11608	15	4.7	79.3	0.88	78.8	78	81	3	1
1975	8	108530	9711	19	5.1	88.8	2.04	89.9	75	93	5	1
1976	30	223308	19981	14	4.4	100.4	1.31	102.9	97	116	3	1
1977	16	128189	11470	5	2.9	85.4	1.57	85.3	69	92	9	2
1978	11	62340	5578	15	3.0	81.8	2.66	82.0	76	104	5	2
1979	9	33997	3042	22	3.6	94.3	0.85	94.8	88	96	4	2
1980	23	78333	7009	25	1.9	82.6	0.91	87.1	80	99	5	3
1981	10	41899	3749	53	0.0	75.6	3.72	71.4	62	86	4	2
1982	12	69247	6196	65	0.0	71.8	2.43	71.6	65	91	5	2
1983	16	57255	5123	29	0.0	73.0	0.00	73.0	73	73	1	1
1984	3	31852	2850	9	0.0	66.0	0.00	66.0	66	66	1	1
1985	2	52527	4700	13	0.0	76.0	0.00	76.0	76	76	1	1
1986	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
All	193	1722658	154139	22	3.8	85.5	0.83	87.7	59	116	39	3

Table 006-4. Spawn summary for section 006 from 1937 to 1986.

A. GENERAL:

There are two main spawning areas in this South Moresby Island section:

(i) Louscoone Inlet and
(ii) Flamingo Inlet

B. COMPLETENESS OF RECORDS:

Probably all spawning records prior to 1959 are incomplete.

C. SPAWNING CONSISTENCY OVER TIME: CONSTANT

If pooled among all localities, there has been a nearly constant annual record of spawnings since 1959 except for the years, 1963, 1966, 1969 and 1986.

D. MAGNITUDE OF SPAWNINGS: SMALL

1. NUMBER OF SPAWN YEARS/50 YEARS	= 27/50 (1937-86)
2. NUMBER OF SPAWN YEARS/DOCUMENTED YEARS	= 24/28 (1959-86)
3. CUMULATIVE SPAWN LENGTH	= 154.1 Km.
4. CUMULATIVE SPAWN AREA	= 172.3 ha.

E. SPAWNING TIME:

1. MEAN UNWEIGHTED DATE (DOY)	= March 27 (85.5)
2. MEAN WEIGHTED DATE (DOY)	= March 29 (87.7)

F. COMMENTS:

There is not enough suitable information to make reasonable conclusions about Louscoone and Flamingo Inlet herring. There is nearly a constant record of spawning (24 out of 28 years, 1959 to 1986) but the mean spawning date is very similar to that of herring spawning in Skincuttle Inlet and Juan Perez Sound (section 025). Therefore it is possible that herring in 006 may represent the extreme southwest extension of the large spawning stock in section 025.

G. ROE FISHERIES:

1. NUMBER OF SEINE FISHERY YEARS/15 YEARS	= 8/15 (1972-86)
2. NUMBER OF GILLNET FISHERY YEARS/15 YEARS	= 3/15 (1972-86)
3. MEAN SEINE CATCH/YEAR	= 1727 tons
4. MEAN GILLNET CATCH/YEAR	= 437 tons

Table 006-5. History of roe fishery catches by gear type in Louscoone Inlet.

SECT. 006	SEINE NET ROE FISHERIES				GILLNET ROE FISHERIES			
YEAR	DATE OPEN (D/Mo)	TIME OPEN (hrs)	HAILED CATCH (Tons)	FISHING AREA	DATE OPEN (D/Mo)	TIME OPEN (hrs)	HAILED CATCH (Tons)	FISHING AREA
1972	25/03-01/04	168	(5110)	Louscoone Skincuttle & Cumshewa	-	-	-	-
1973	18/03-22/03	96	100	Louscoone Inlet	-	-	-	-
1974	19/03	19	900	Louscoone Inlet	-	-	-	-
1975	16/03-21/03 23/03-24/04	-	1700	Louscoone Inlet	-	-	-	-
1976	16/03-18/03	48	2700	sect. 006	12/03-18/03	96	350	sect. 006
1977	16/03 & 20/03	5.5	3525	Louscoone Inlet	-	-	-	-
1978	17/03-18/03	_	2235	Louscoone Inlet	14/03-18/03	96	650	Louscoone Inlet
1979	-	-	-	-	-	-	-	-
1980	19/03-21/03	41	930	Louscoone Inlet	19/03-21/03	39	312	Louscoone Inlet
1981	-	-	-	-	-	-	-	-
1982	-	-	-	-	-	-	-	-
1983	-	-	-	-	-	-	-	-
1984	-	-	-	-	-	-	-	-
1985	-	-	-	-	-	-	-	-
1986	-	-	-	-	-	-	-	-

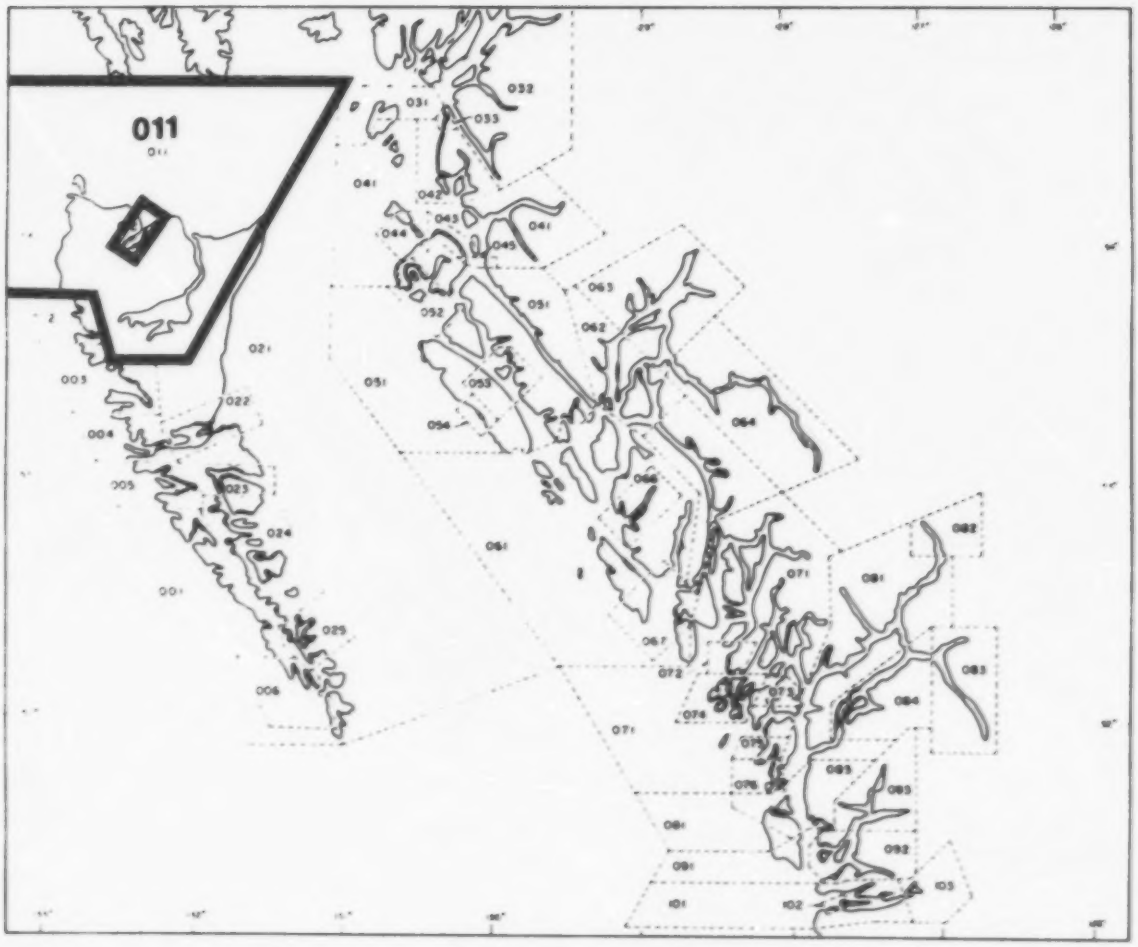

Fig. 011-1. Overview map showing location of section 011, Other Area 1.

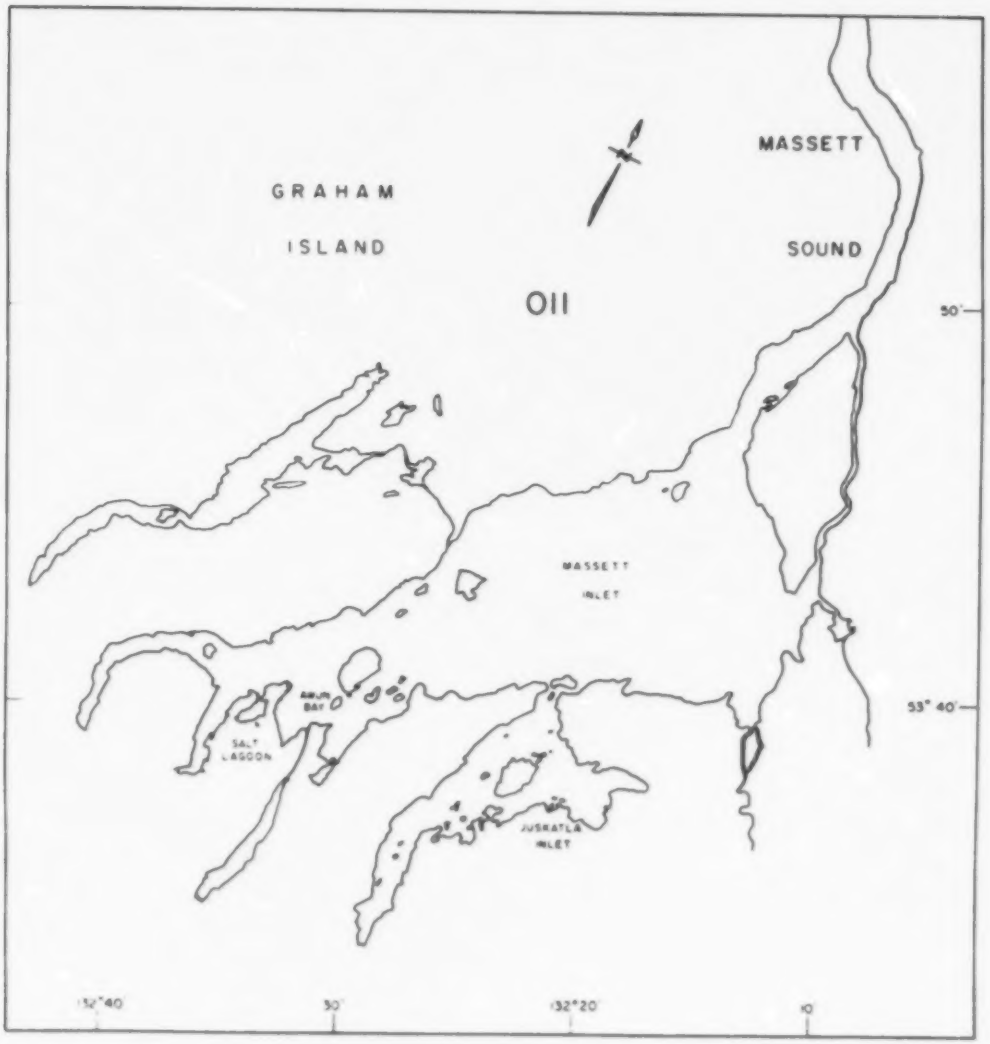

Fig. 011-2. Detailed map of section 011, Other Area 1.

Table 011-3. Herring statistical spawn summary for section 011.

Year	Total records	Spawn index	Sum length	Av wid	Av int	Av date	SE date	Wt date	Min day	Max day	Ind day	Ind loc
1937	2	197054	6434	0	7.0	176.0	0.00	176.0	176	176	1	2
1938	2	197054	6434	0	7.0	171.0	0.00	171.0	171	171	1	2
1939	2	197054	6434	0	6.0	176.0	0.00	176.0	176	176	1	2
1940	2	197054	6434	0	6.0	177.0	0.00	177.0	177	177	1	2
1941	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1942	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1943	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1944	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1945	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1946	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1947	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1948	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1949	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1950	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1951	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1952	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1953	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1954	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1955	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1956	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1957	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1958	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1959	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1960	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1961	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1962	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1963	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1964	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1965	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1966	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1967	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1968	6	79783	2605	23	4.7	171.0	3.18	175.6	161	177	3	3
1969	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1970	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1971	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1972	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1973	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1974	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1975	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1976	1	92371	3016	91	4.0	181.0	0.00	181.0	181	181	1	1
1977	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1978	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1979	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1980	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1981	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1982	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1983	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1984	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1985	3	59386	1939	8	0.0	169.0	0.00	169.0	169	169	1	1
1986	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
All	18	1019757	33296	25	5.6	173.0	1.30	175.2	161	181	7	5

Table 011-4. Spawn summary for section 011 from 1937 to 1986.

A. GENERAL:

Masset Inlet - Juskatla Inlet and Awun Bay.

B. COMPLETENESS OF RECORDS:

The 50 year record should be reasonably complete considering proximity to the settlements of Port Clements, Masset and Juskatla. Some spawns in earlier years, however, may have been unreported.

C. SPAWNING CONSISTENCY OVER TIME: INFREQUENT

There are only four recorded spawning episodes, 1937-40, 1968, 1976 and 1985.

D. MAGNITUDE OF SPAWNINGS: SMALL

1. NUMBER OF SPAWN YEARS/50 YEARS	= 7/50 (1937-86)
2. NUMBER OF SPAWN YEARS/DOCUMENTED YEARS	= 7/50 (1937-86)
3. CUMULATIVE SPAWN LENGTH	= 33.3 Km.
4. CUMULATIVE SPAWN AREA	= 102.0 ha.

E. SPAWNING TIME:

1. MEAN UNWEIGHTED DATE (DOY)	= June 22 (173.0)
2. MEAN WEIGHTED DATE (DOY)	= June 24 (175.2)

F. COMMENTS:

Herring in Masset Inlet are some of the latest spawners on the British Columbia coast. This is especially interesting because the mean spawning date for their nearest neighbours in Naden Harbour (section 012) is among the earliest on the coast, about March 2. Spawning records are known to be incomplete so it is probable there is a small resident stock in Masset.

G. ROE FISHERIES:

No major roe fisheries are documented.

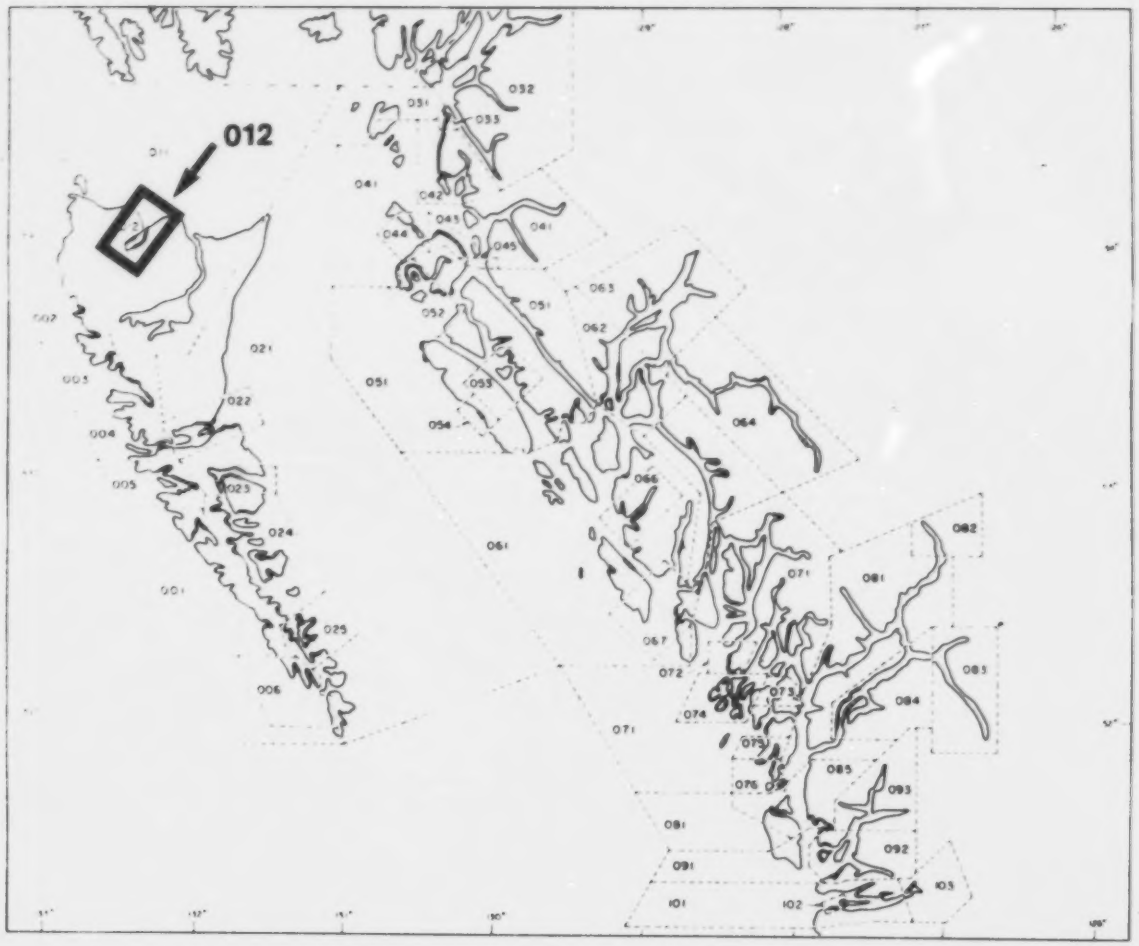

Fig. 012-1. Overview map showing location of section 012, Naden Harbour.

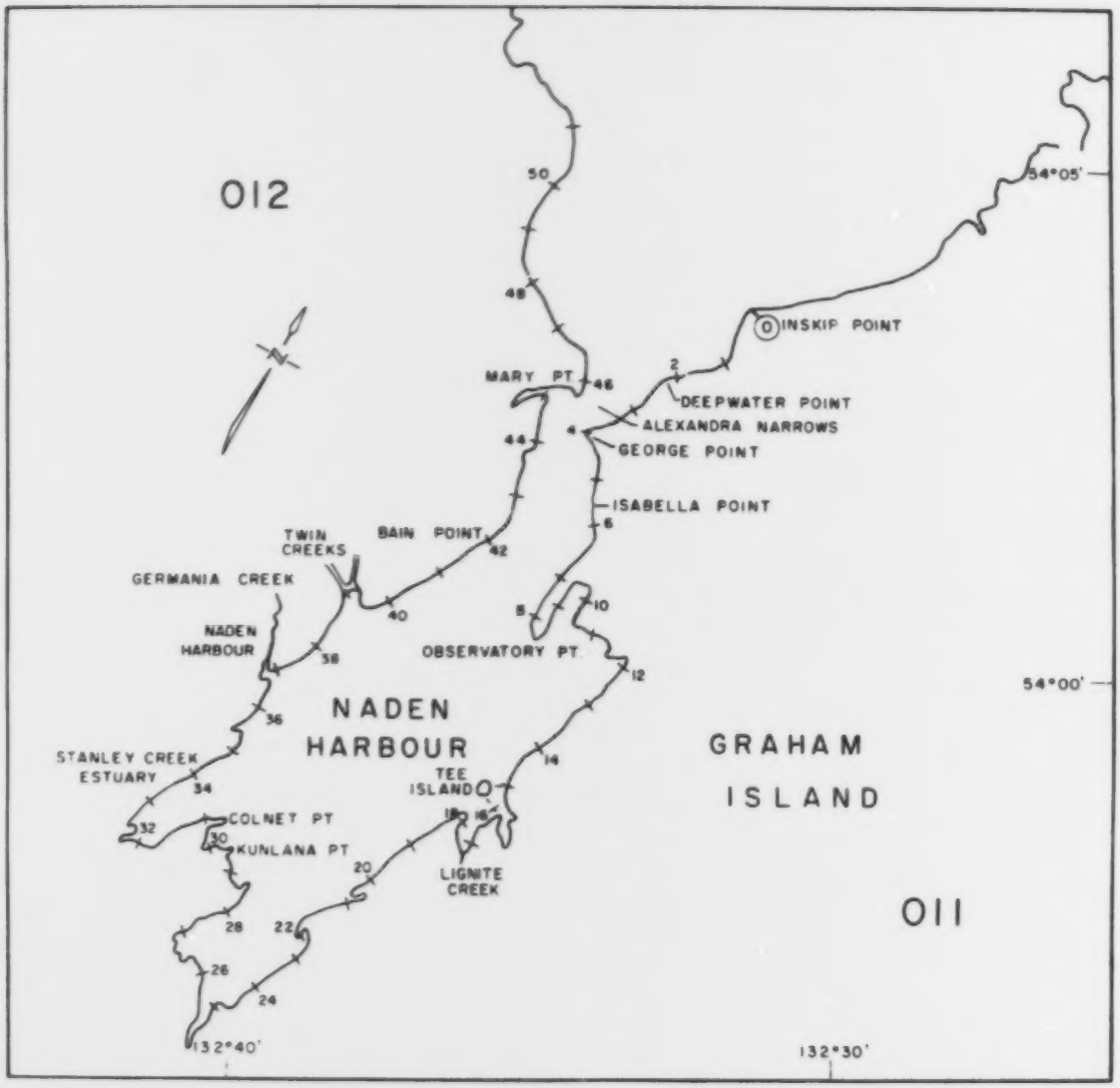

Fig. 012-2. Detailed map of section 012, Naden Harbour.

Table 012-1. Section 012 - Spawn position by year.

Table 012-2. Section 012 - Histogram of cumulative spawn frequency over distance.

	position(km)	0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75	vara	varb	varc	all
INSKIP POINT	0.00	+*	1	0	0	1
	1.00	+	0	0	0	0
DEEPWATER POINT	2.00	+*****	5	0	0	5
GEORGE POINT	3.00	+**I	2	0	1	3
	4.00	+******	6	0	0	6
ISABELLA POINT	5.00	+*********	9	0	0	9
	6.00	+******	6	0	0	6
OBSERVATORY PT.	7.00	+********00	8	2	0	10
	8.00	+**********0	10	1	0	11
	9.00	+*	1	0	0	1
	10.00	+	0	0	0	0
	11.00	+	0	0	0	0
	12.00	+	0	0	0	0
	13.00	+	0	0	0	0
	14.00	+	0	0	0	0
TEE ISLAND	15.00	+***	3	0	0	3
	16.00	+	0	0	0	0
	17.00	+	0	0	0	0
	18.00	+*	1	0	0	1
	19.00	+**	2	0	0	2
	20.00	+**	2	0	0	2
	21.00	+*	1	0	0	1
	22.00	+*	1	0	0	1
	23.00	+	0	0	0	0
	24.00	+	0	0	0	0
	25.00	+	0	0	0	0
ALEXANDRA NARROWS	26.00	+*	1	0	0	1
NADEN HARBOUR	27.00	+***000000	3	6	0	9
	28.00	+**0	2	1	0	3
KUNLANA PT.	29.00	+*****	5	0	0	5
	30.00	+*******	7	0	0	7
	31.00	+***	3	0	0	3
COLNETT POINT	32.00	+*	1	0	0	1
	33.00	+*****0	5	1	0	6
		0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75	vara	varb	varc	all

Table 012-2 (cont'd.)

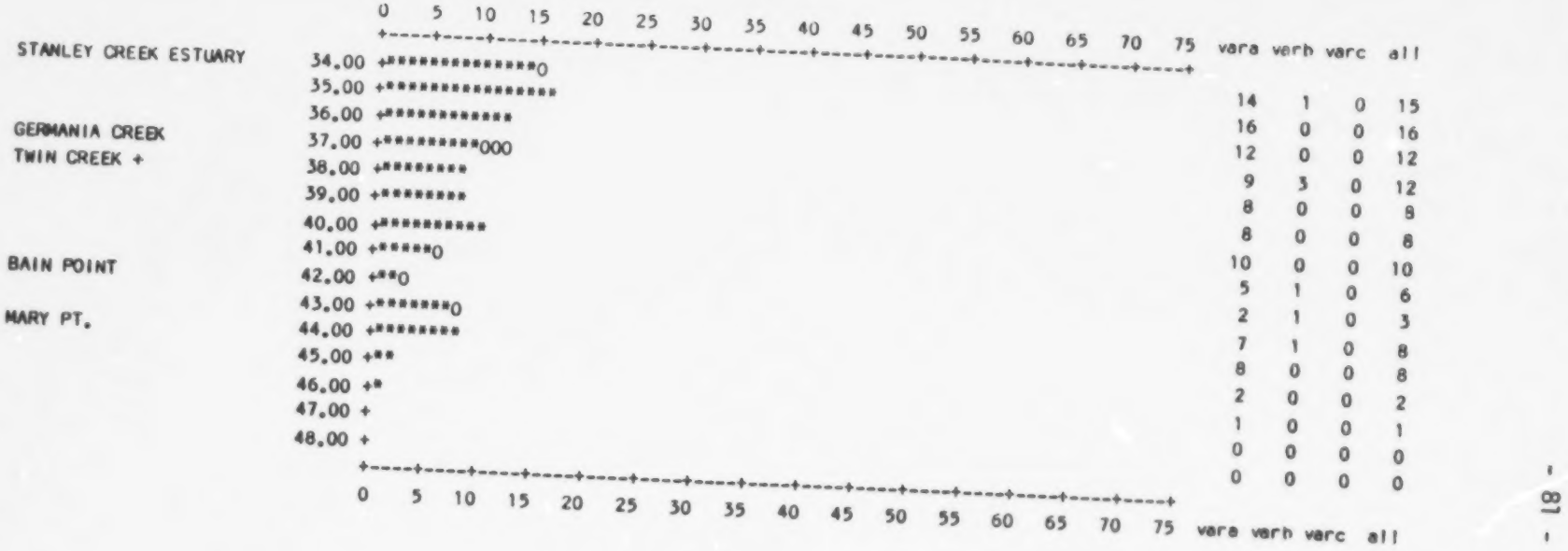

Table 012-3. Herring statistical spawn summary for section 012.

Year	Total records	Spawn index	Sum length	Av wid	Av int	Av date	SE date	Wt date	Min day	Max day	Ind day	Ind loc
1937	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1938	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1939	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1940	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1941	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1942	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1943	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1944	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1945	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1946	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1947	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1948	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1949	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1950	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1951	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1952	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1953	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1954	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1955	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1956	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1957	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1958	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1959	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1960	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1961	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1962	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1963	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1964	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1965	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1966	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1967	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1968	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1969	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1970	1	38432	1206	2	1.0	72.0	0.00	72.0	72	72	1	1
1971	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1972	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1973	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1974	10	183458	5757	44	5.2	65.9	3.98	69.5	48	80	6	4
1975	7	98278	3084	33	2.3	79.4	4.63	76.3	60	94	4	2
1976	13	251909	7905	40	2.2	70.2	5.57	72.5	43	106	10	1
1977	25	409268	12843	73	2.5	56.9	2.95	59.8	32	83	11	3
1978	20	381926	11985	174	2.8	51.8	3.80	54.8	32	91	10	1
1979	14	459777	14428	31	1.3	63.0	6.69	60.7	35	100	8	5
1980	12	275395	8642	42	1.5	52.3	6.16	58.7	33	86	7	6
1981	8	190023	5963	41	0.0	68.9	1.79	70.5	62	74	4	5
1982	17	365546	11471	44	0.0	51.7	2.75	53.8	32	84	5	9
1983	5	18642	585	28	0.0	97.0	0.00	97.0	97	97	1	1
1984	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1985	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1986	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
All	132	2672654	83869	66	2.5	61.2	1.68	62.0	32	106	47	15

Table 012-4. Spawn summary for section 012 from 1937 to 1986.

A. GENERAL:

There are two main spawning areas in this Naden Harbour section:
(i) Isabella Point and
(ii) Naden Harbour

B. COMPLETENESS OF RECORDS:

Probably all spawning records prior to 1970 are incomplete.

C. SPAWNING CONSISTENCY OVER TIME: FREQUENT

There has been constant spawnings only during the years, 1974-83 with no recorded spawnings in other years.

D. MAGNITUDE OF SPAWNINGS: MEDIUM

1. NUMBER OF SPAWN YEARS/50 YEARS	= 11/50 (1937-86)
2. NUMBER OF SPAWN YEARS/DOCUMENTED YEARS	= 11/17 (1970-86)
3. CUMULATIVE SPAWN LENGTH	= 83.9 Km.
4. CUMULATIVE SPAWN AREA	= 267.3 ha.

E. SPAWNING TIME:

1. MEAN UNWEIGHTED DATE (DOY)	= March 2 (61.2)
2. MEAN WEIGHTED DATE (DOY)	= March 3 (62.0)

F. COMMENTS:

Spawn records prior to 1970 are incomplete but it appears there has been no recent spawning in Naden Harbour, therefore the status of these fish is uncertain. It seems likely they represent a unique, or part of a unique, early spawning stock with a mean spawning date nearly one month earlier than most major spawning locations (i.e., Chatham Sound or Porcher Island).

G. ROE FISHERIES:

1. NUMBER OF SEINE FISHERY YEARS/15 YEARS	= 0/15 (1972-86)
2. NUMBER OF GILLNET FISHERY YEARS/15 YEARS	= 3/15 (1972-86)
3. MEAN SEINE CATCH/YEAR	= 0 tons
4. MEAN GILLNET CATCH/YEAR	= 116 tons

Table 012-5. History of roe fishery catches by gear type in Naden Harbour.

SECT. 012	SEINE NET ROE FISHERIES				GILLNET ROE FISHERIES			
YEAR	DATE OPEN (D/Mo)	TIME OPEN (hrs)	HAILED CATCH (Tons)	FISHING AREA	DATE OPEN (D/Mo)	TIME OPEN (hrs)	HAILED CATCH (Tons)	FISHING AREA
1972	-	-	-	-	-	-	-	-
1973	-	-	-	-	-	-	-	-
1974	-	-	-	-	-	-	-	-
1975	-	-	-	-	-	-	-	-
1976	-	-	-	-	-	-	-	-
1977	-	-	-	-	-	-	-	-
1978	-	-	-	-	26/02-07/03	216	129	Naden Hbr.
1979	-	-	-	-	12/02-14/02 25/02-27/02	94	111	Naden Hbr.
1980	-	-	-	-	12/02-14/02 17/02-20/02	104	100	Naden Hbr.
1981	-	-	-	-	-	-	-	-
1982	-	-	-	-	-	-	-	-
1983	-	-	-	-	-	-	-	-
1984	-	-	-	-	-	-	-	-
1985	-	-	-	-	-	-	-	-
1986	-	-	-	-	-	-	-	-

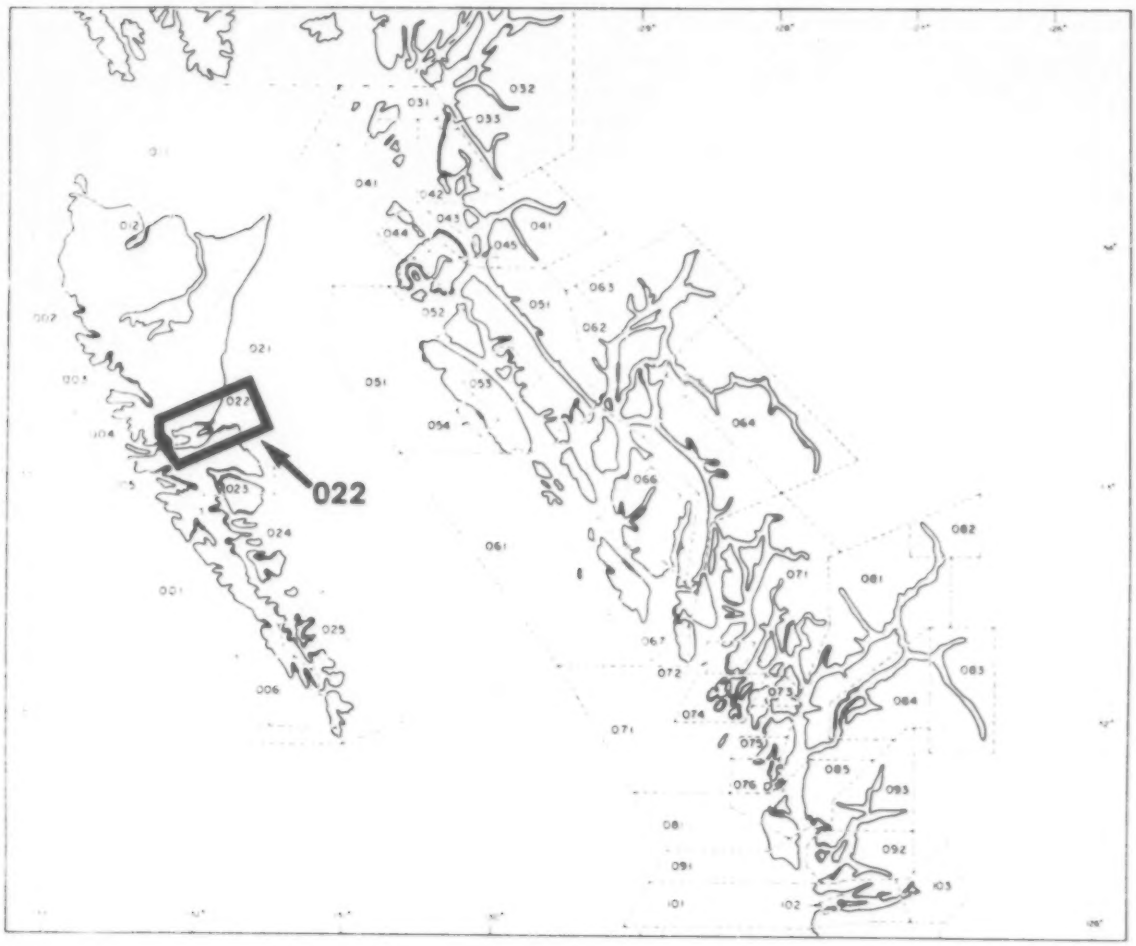

Fig. 022-1. Overview map showing location of section 022, Skidegate Inlet.

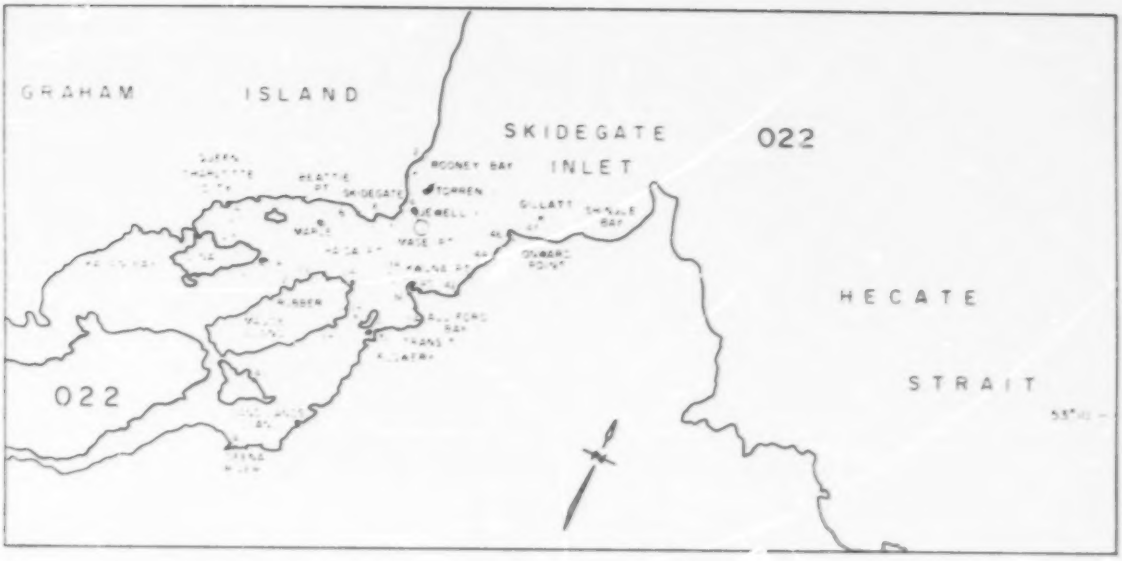

Fig. 022-2. Detailed map of section 022, Skidegate Inlet.

Table 022-1. Section 022 - Spawn position by year.

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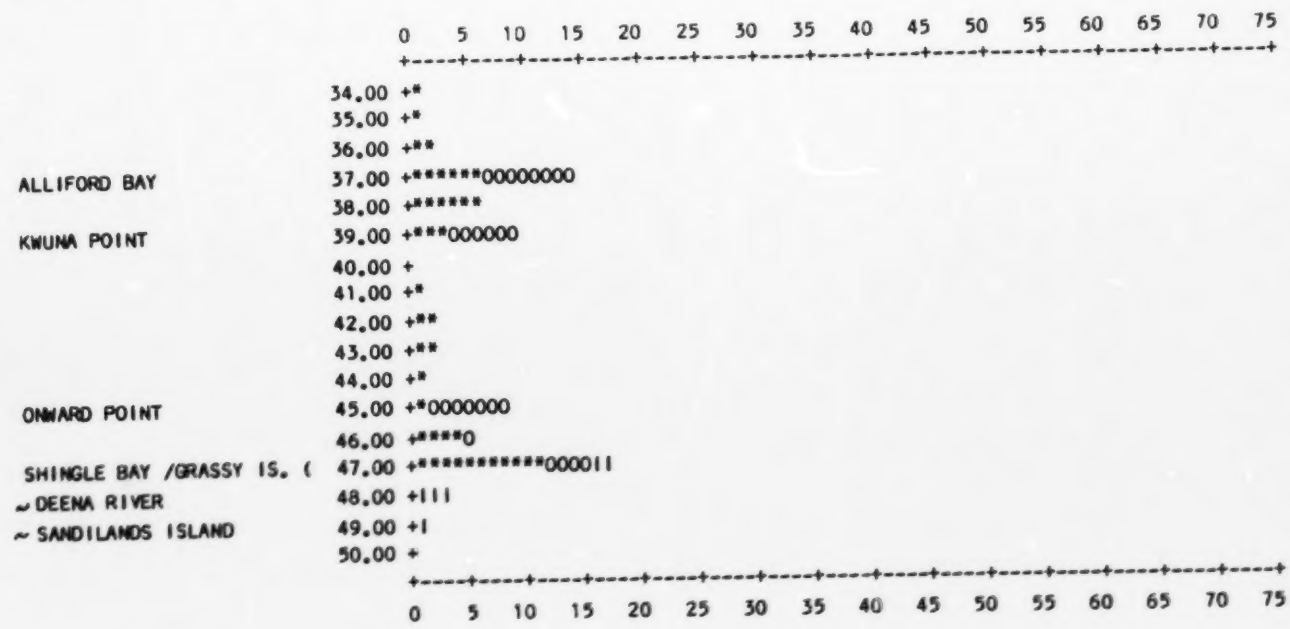
T( T( V( I HS/M    L ~  M/  T~   A K   O S/~
RJ OB IR M AKBA    I K  AR  RF   L W   N HGD
EE RA LO A IIEP    N A  UO  AL   L U   W IRE
EW RR LO G DDAL    A G  DB  NO   I N   A NAE
 E EE AN E AETE      A  EB  SW   F A   R GSN
IL N  GE   GT      I N   E  IE   O     D LSA
SL SI EY P PAII    S     IR  TR   R P     EY
 .  S    T TTES    L B   S   Y   D O   P   R
 I I) BB I  E L    A A   LI  I       I   O BII
 S S  AA N   PA    N Y   AS  SI    B N   I ASV
 )    YY T  ITN    D     N   S     A T   N Y E
        )   N D          D         Y     T   R
```

Table 022-2. Section 022 - Histogram of cumulative spawn frequency over distance

	position(km)	0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75	vara	varb	varc	all
TREE ISLAND (JEWELL IS.)	0.00	+**0000000000000000000000000	39	25	0	64
TORRENS IS. (BARE IS.)	1.00	+************************0000000000000000	25	16	0	41
VILLAGE BAY (ROONEY BAY)	2.00	+******000000	6	6	0	12
IMAGE POINT	3.00	+********00000000000000	8	14	0	22
	4.00	+****************0	16	1	0	17
	5.00	+********00	8	2	0	10
	6.00	+**********00000	9	5	0	14
HAIDA POINT	7.00	+****0000000000000000000000000000	4	27	0	31
SKIDEGATE IN/BEATTIE POIN	8.00	+**00000000000000000000000000000	2	28	0	30
MAPLE ISLAND	9.00	+***000000000000000000000	3	21	0	24
	10.00	+*****0000	5	4	0	9
	11.00	+*00	1	2	0	3
	12.00	+00	0	2	0	2
	13.00	+	0	0	0	0
	14.00	+	0	0	0	0
	15.00	+	0	0	0	0
	16.00	+	0	0	0	0
	17.00	+	0	0	0	0
LINA ISLAND	18.00	+***0	3	1	0	4
	19.00	+*111	1	0	3	4
~KAGAN BAY	20.00	+111	0	0	3	3
	21.00	+*	1	0	0	1
	22.00	+**	2	0	0	2
	23.00	+****00	4	2	0	6
MAUDE ISLAND/ROBBER ISLAN	24.00	+**********000000000000000000	11	19	0	30
	25.00	+*****00	5	2	0	7
	26.00	+*0	1	1	0	2
	27.00	+*	1	0	0	1
	28.00	+	0	0	0	0
	29.00	+	0	0	0	0
TRANSIT ISLAND	30.00	+***000000000000	3	12	0	15
~FLOWERY ISLAND	31.00	+*1111111111	1	0	10	11
	32.00	+	0	0	0	0
	33.00	+*	1	0	0	1
		0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75	vara	varb	varc	all

Table 022-2 (cont'd.)



	vara	varh	varc	all
	1	0	0	1
	1	0	0	1
	2	0	0	2
	6	8	0	14
	6	0	0	6
	3	6	0	9
	0	0	0	0
	1	0	0	1
	2	0	0	2
	2	0	0	2
	1	0	0	1
	1	7	0	8
	4	1	0	5
	11	4	2	17
	0	0	3	3
	0	0	1	1
	0	0	0	0
	vara	varh	varc	all

Table 022-3. Herring statistical spawn summary for section 022.

Year	Total records	Spawn index	Sum length	Av wid	Av int	Av date	SE date	Wt date	Min day	Max day	Ind day	Ind loc
1937	1	11106	804	0	5.0	69.0	0.00	69.0	69	69	1	1
1938	1	11106	804	0	5.0	74.0	0.00	74.0	74	74	1	1
1939	1	11106	804	0	3.0	60.0	0.00	60.0	60	60	1	1
1940	1	88893	6435	0	7.0	96.0	0.00	96.0	96	96	1	1
1941	1	88893	6435	0	7.0	95.0	0.00	95.0	95	95	1	1
1942	3	101008	7312	18	6.3	0.0	0.00	161.3	0	0	0	1
1943	2	59345	4296	25	7.0	102.0	3.00	101.2	99	105	2	2
1944	5	101768	7367	18	5.0	131.6	1.40	132.1	129	137	4	5
1945	2	15140	1096	14	4.0	121.0	2.00	121.0	119	123	2	1
1946	1	15154	1097	16	5.0	92.0	0.00	92.0	92	92	1	1
1947	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1948	7	79555	5759	18	4.7	134.3	5.71	130.9	111	157	7	3
1949	6	23346	1690	14	4.0	145.2	5.47	137.6	132	163	5	3
1950	4	16411	1188	6	2.5	146.0	6.87	138.9	137	166	3	2
1951	5	25887	1874	6	6.2	155.4	6.40	156.8	136	171	5	4
1952	3	13897	1006	12	6.7	145.3	5.21	146.2	136	154	3	3
1953	10	53792	3894	5	7.4	138.9	3.78	138.8	118	163	8	7
1954	10	31717	2296	7	6.2	144.4	6.49	147.2	127	176	9	8
1955	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1956	3	884	64	4	1.0	171.0	0.00	171.0	171	171	1	3
1957	2	1008	73	4	6.0	163.5	2.50	162.2	161	166	2	2
1958	1	2528	183	7	7.0	112.0	0.00	112.0	112	112	1	1
1959	3	23359	1691	9	4.7	108.7	1.67	111.1	107	112	2	3
1960	6	22116	1601	18	4.3	122.5	7.51	126.0	99	146	6	4
1961	3	83340	6033	30	5.0	129.0	2.65	127.7	125	134	3	3
1962	6	49869	3610	9	3.5	138.0	1.90	135.8	132	141	2	6
1963	4	16535	1197	6	5.0	135.0	4.42	131.6	129	148	4	3
1964	4	36621	2651	15	5.0	111.0	6.87	104.2	102	131	3	4
1965	1	249	18	5	3.0	140.0	0.00	140.0	140	140	1	1
1966	2	6313	457	18	6.5	132.0	1.00	131.4	131	133	2	2
1967	3	4296	311	15	2.3	127.7	13.67	138.1	114	155	2	2
1968	4	8192	593	16	4.0	137.0	4.24	135.5	129	149	3	3
1969	6	33471	2423	27	4.7	151.8	8.87	151.8	128	174	5	4
1970	9	44813	3244	20	4.3	130.4	4.97	128.6	108	152	9	4
1971	23	71985	5211	24	4.1	161.3	4.75	155.0	119	197	10	5
1972	13	141027	10209	17	3.4	151.3	6.72	160.9	120	183	5	4
1973	11	29686	2149	21	4.3	130.2	6.86	124.0	98	173	7	4
1974	11	47368	3429	26	4.1	127.4	6.21	127.9	92	164	9	5
1975	9	87111	6306	32	4.7	142.1	3.52	140.0	122	157	7	6
1976	6	105415	7631	42	4.8	156.5	1.80	158.1	151	160	3	6
1977	9	121218	8775	15	4.1	131.1	6.38	129.1	112	172	6	4
1978	13	205014	14841	9	4.0	128.0	4.41	123.6	107	157	11	9
1979	12	61265	4435	20	2.9	128.8	1.09	127.5	124	133	6	7
1980	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1981	31	33167	2401	12	0.0	130.6	4.23	119.6	106	172	7	10
1982	6	12571	910	44	0.0	131.3	9.63	131.6	100	167	6	6
1983	12	23553	1705	9	0.0	118.7	3.14	120.5	106	131	5	5
1984	35	94764	6860	11	0.0	124.6	1.83	122.6	96	135	10	11
1985	11	16508	1195	13	0.0	137.3	1.27	137.2	136	150	2	3
1986	27	96974	7020	11	0.0	126.7	2.02	125.2	107	141	8	7
All	349	2229345	161383	16	4.5	133.9	1.13	130.5	60	197	78	26

Table 022-4. Spawn summary for section 022 from 1937 to 1986.

A. GENERAL:

The major spawning areas are in the vicinity of Skidegate Village.

B. COMPLETENESS OF RECORDS:

The 50 year record should be reasonably complete considering proximity to Queen Charlotte City and Sandspit.

C. SPAWNING CONSISTENCY OVER TIME: CONSTANT

If pooled among all localities, there has been a nearly constant annual record of spawnings since 1937 except for the years, 1947, 1955 and 1980.

D. MAGNITUDE OF SPAWNINGS: MEDIUM

1. NUMBER OF SPAWN YEARS/50 YEARS	= 47/50 (1937-86)
2. NUMBER OF SPAWN YEARS/DOCUMENTED YEARS	= 47/50 (1937-86)
3. CUMULATIVE SPAWN LENGTH	= 161.4 Km.
4. CUMULATIVE SPAWN AREA	= 222.9 ha.

E. SPAWNING TIME:

1. MEAN UNWEIGHTED DATE (DOY)	= May 14 (133.9)
2. MEAN WEIGHTED DATE (DOY)	= May 11 (130.5)

F. COMMENTS:

The relatively late spawnings (approximately May 14) in Skidegate indicates fish in this area are a local stock, distinct from adjacent locations. Also, herring have been observed during winter surveys near the the entrance to Skidegate (Taylor, 1970) so that seasonal movements of Skidegate herring may be quite limited. There is no evidence to indicate movement to or from the west coast of the Queen Charlotte Islands.

G. ROE FISHERIES:

No major roe fisheries are documented.

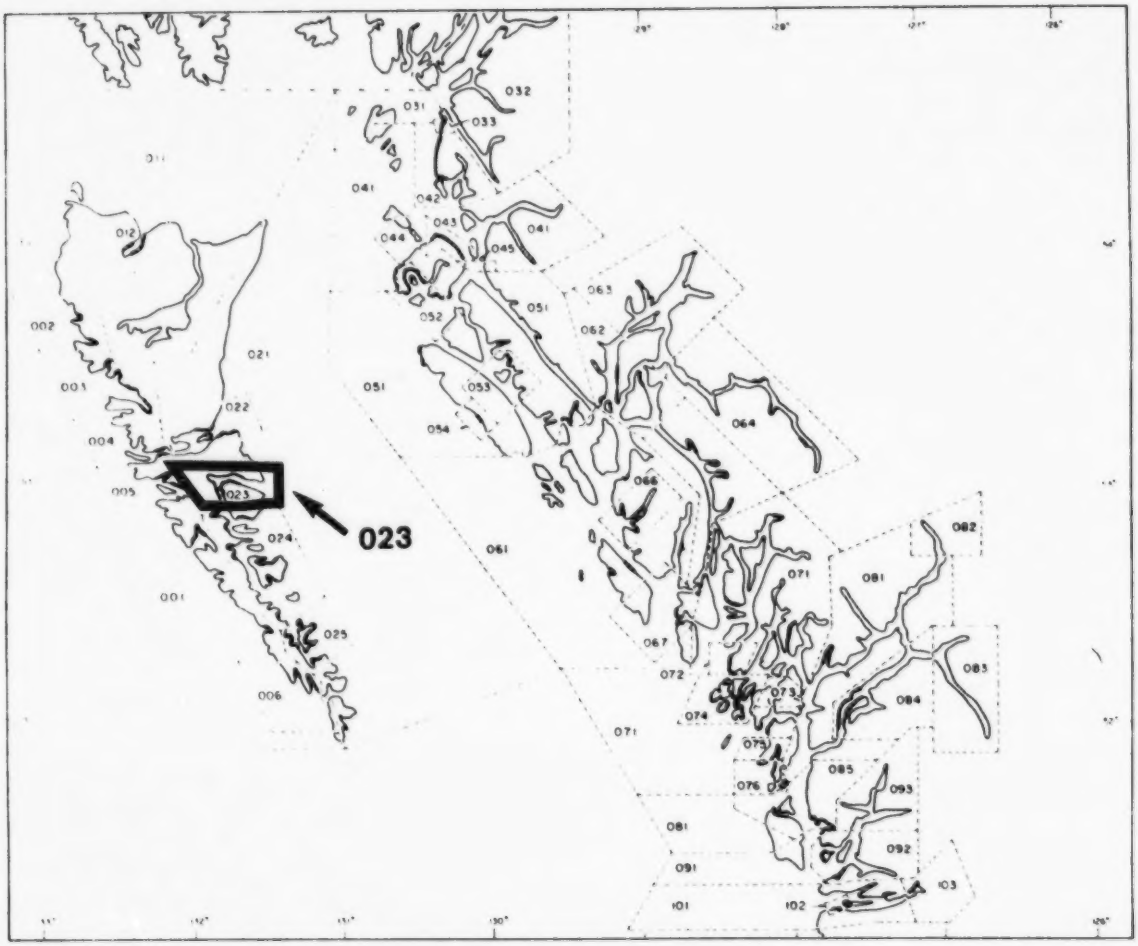


Fig. 023-1. Overview map showing location of section 023, Cumshewa Inlet.

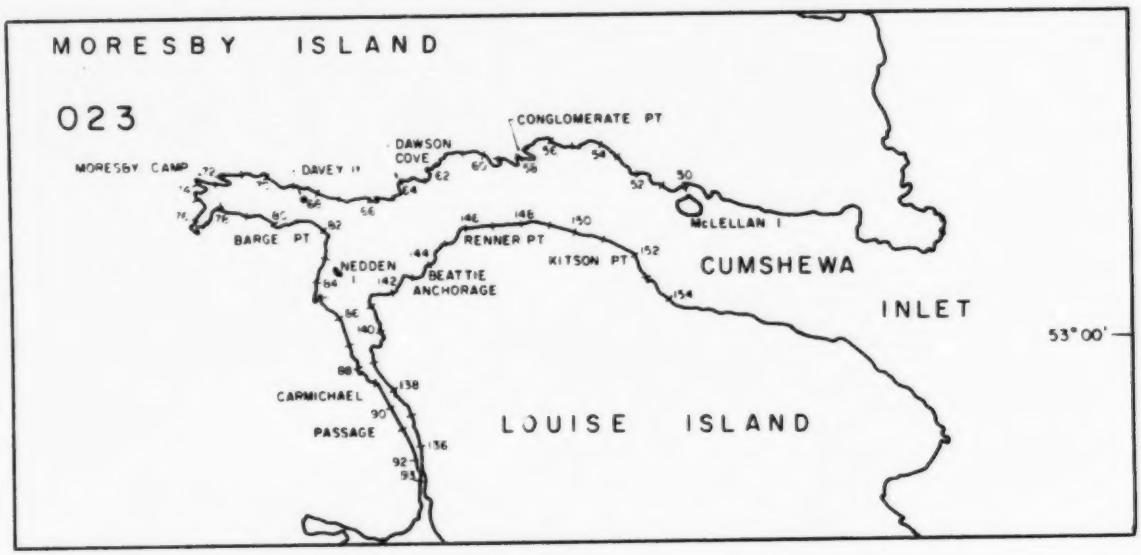


Fig. 023-2. Detailed map of section 023, Cumshewa Inlet.

Table 023-1. Section 023 - spawn position by year.

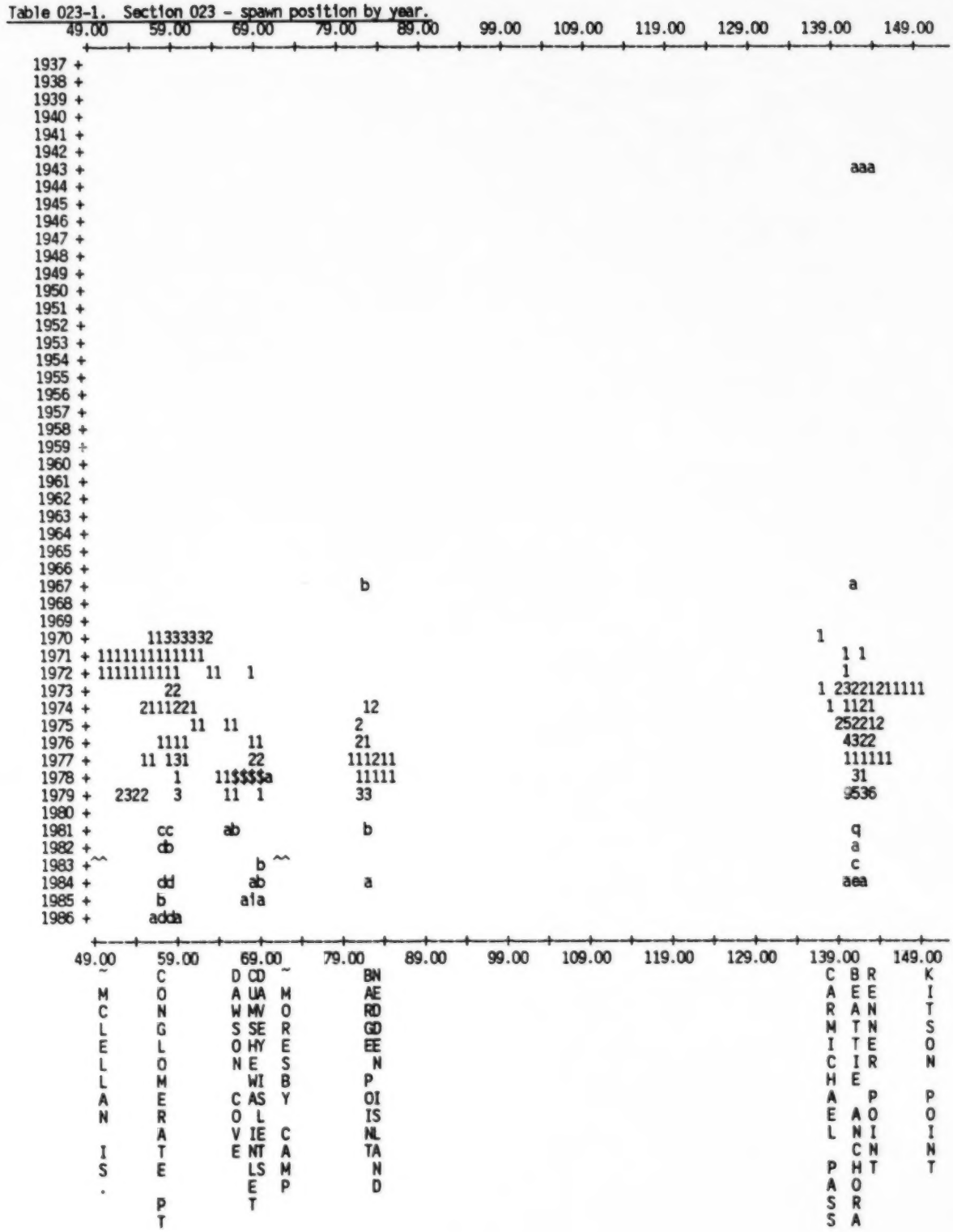


Table 023-2. Section 023 - Histogram of cumulative spawn frequency over distance.

```
                        position(km)
                              0    5   10   15   20   25   30   35   40   45   50   55   60   65   70   75  vara varh varc  all
                              +----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+
                        48.00 +                                                                              0    0    0    0
                        49.00 +IIIIIIIIII                                                                    0    0   10   10
MCLELLAN ISLAND         50.00 +**IIIIIIIIII                                                                  2    0   10   12
                        51.00 +**                                                                            2    0    0    2
                        52.00 +****                                                                          4    0    0    4
                        53.00 +*****                                                                         5    0    0    5
                        54.00 +****                                                                          4    0    0    4
                        55.00 +*******                                                                       7    0    0    7
                        56.00 +******0                                                                       5    1    0    6
CONGLOMERATE POINT      57.00 +*****00000000000000000                                                        5   17    0   22
                        58.00 +**********0000000000000                                                      10   13    0   23
                        59.00 +*****************0                                                           17    1    0   18
                        60.00 +********                                                                      8    0    0    8
                        61.00 +******                                                                        6    0    0    6
                        62.00 +*****                                                                         5    0    0    5
                        63.00 +***                                                                           3    0    0    3
                        64.00 +**                                                                            2    0    0    2
                        65.00 +***0                                                                          3    1    0    4
DAWSON COVE             66.00 +***000                                                                        3    3    0    6
                        67.00 +*00                                                                           1    2    0    3
CUMSHEWA INLET          68.00 +*****00000000000                                                              5   11    0   16
DAVEY ISLETS            69.00 +******000000                                                                  6    6    0   12
                        70.00 +0                                                                             0    1    0    1
                        71.00 +IIIII                                                                         0    0    5    5
~ MORESBY CAMP          72.00 +IIIII                                                                         0    0    5    5
                        73.00 +                                                                              0    0    0    0
                        74.00 +                                                                              0    0    0    0
                        75.00 +                                                                              0    0    0    0
                        76.00 +                                                                              0    0    0    0
                        77.00 +                                                                              0    0    0    0
                        78.00 +                                                                              0    0    0    0
                        79.00 +                                                                              0    0    0    0
                        80.00 +*                                                                             1    0    0    1
                        81.00 +*********                                                                     9    0    0    9
                              0    5   10   15   20   25   30   35   40   45   50   55   60   65   70   75  vara varh varc  all
                              +----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+
```

Table 023-2 (cont'd.)

		position(km) 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75	vara	varb	varc	all
BARGE POINT	82.00	+*******00000	7	5	0	12
NEDDEN ISLAND	83.00	+*****	5	0	0	5
	84.00	+**	2	0	0	2
	85.00	+**	2	0	0	2
	86.00	+	0	0	0	0
	87.00	+	0	0	0	0
	88.00	+	0	0	0	0
	89.00	+	0	0	0	0
	90.00	+	0	0	0	0
	91.00	+	0	0	0	0
	92.00	+	0	0	0	0
	93.00	+	0	0	0	0
	94.00	+	0	0	0	0
	95.00	+	0	0	0	0
	96.00	+	0	0	0	0
	97.00	+	0	0	0	0
	98.00	+	0	0	0	0
	99.00	+	0	0	0	0
	100.00	+	0	0	0	0
	101.00	+	0	0	0	0
	102.00	+	0	0	0	0
	103.00	+	0	0	0	0
	104.00	+	0	0	0	0
	105.00	+	0	0	0	0
	106.00	+	0	0	0	0
	107.00	+	0	0	0	0
	108.00	+	0	0	0	0
	109.00	+	0	0	0	0
	110.00	+	0	0	0	0
	111.00	+	0	0	0	0
	112.00	+	0	0	0	0
	113.00	+	0	0	0	0
	114.00	+	0	0	0	0
	115.00	+	0	0	0	0
	116.00	+	0	0	0	0
		0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75	vara	varb	varc	all

Table 023-2 (cont'd.)

```
                position(km)
                0    5   10   15   20   25   30   35   40   45   50   55   60   65   70   75   vara varb varc all
                +----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+
          117.00 +                                                                                0    0    0    0
          118.00 +                                                                                0    0    0    0
          119.00 +                                                                                0    0    0    0
          120.00 +                                                                                0    0    0    0
          121.00 +                                                                                0    0    0    0
          122.00 +                                                                                0    0    0    0
          123.00 +                                                                                0    0    0    0
          124.00 +                                                                                0    0    0    0
          125.00 +                                                                                0    0    0    0
          126.00 +                                                                                0    0    0    0
          127.00 +                                                                                0    0    0    0
          128.00 +                                                                                0    0    0    0
          129.00 +                                                                                0    0    0    0
          130.00 +                                                                                0    0    0    0
          131.00 +                                                                                0    0    0    0
          132.00 +                                                                                0    0    0    0
          133.00 +                                                                                0    0    0    0
          134.00 +                                                                                0    0    0    0
          135.00 +                                                                                0    0    0    0
          136.00 +                                                                                2    0    0    2
          137.00 +**                                                                              1    0    0    1
CARMICHAEL PASS   138.00 +*                                                                       4    0    0    4
          139.00 +****                                                                           25   1    0    26
          140.00 +*************************0                                                    17   27   0    44
BEATTIE ANCHORAGE 141.00 +*****************00000000000000000000000000000                      14   2    0    16
          142.00 +***************00                                                            12   1    0    13
RENNER POINT      143.00 +*************0                                                         5    1    0    6
          144.00 +******0                                                                        2    0    0    2
          145.00 +**                                                                             1    0    0    1
          146.00 +*                                                                              1    0    0    1
          147.00 +*                                                                              1    0    0    1
          148.00 +*                                                                              1    0    0    1
          149.00 +*                                                                              1    0    0    1
KITSON POINT      150.00 +*                                                                       4    0    0    4
          151.00 +****                                                                           1    0    0    1
          152.00 +*                                                                              0    0    0    0
          153.00 +
                +----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+
                0    5   10   15   20   25   30   35   40   45   50   55   60   65   70   75   vara varb varc all
```

Table 023-3. Herring statistical spawn summary for section 023.

Year	Total records	Spawn index	Sum length	Av wid	Av int	Av date	SE date	Wt date	Min day	Max day	Ind day	Ind loc
1937	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1938	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1939	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1940	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1941	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1942	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1943	1	41781	1828	32	3.0	105.0	0.00	105.0	105	105	1	1
1944	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1945	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1946	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1947	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1948	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1949	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1950	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1951	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1952	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1953	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1954	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1955	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1956	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1957	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1958	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1959	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1960	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1961	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1962	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1963	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1964	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1965	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1966	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1967	3	8891	389	19	6.0	110.0	0.00	110.0	110	110	1	2
1968	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1969	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1970	14	143764	6290	118	5.0	92.8	1.25	92.8	89	108	4	2
1971	3	292260	12787	15	4.3	134.7	10.93	113.8	113	148	3	2
1972	4	252993	11069	15	4.0	113.5	6.50	97.3	94	120	2	1
1973	18	256947	11242	26	4.9	102.0	1.63	103.9	87	105	2	5
1974	11	167489	7328	14	4.5	110.4	7.85	102.4	90	148	3	5
1975	10	251713	11013	7	4.7	127.3	5.76	118.6	100	148	5	4
1976	10	217269	9506	13	4.7	135.1	7.68	124.9	104	168	6	4
1977	11	304991	13344	16	3.4	115.5	5.99	118.0	91	138	6	4
1978	11	298751	13071	30	2.9	114.6	6.12	115.6	91	144	6	6
1979	33	219280	9594	17	3.7	123.9	3.14	121.0	102	152	9	5
1980	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1981	26	149044	6521	16	0.0	125.7	7.07	112.2	91	176	4	5
1982	5	52432	2294	15	0.0	92.0	1.00	92.0	91	96	2	2
1983	20	143650	6285	26	0.0	98.4	2.37	99.9	95	141	3	4
1984	12	127079	5560	15	0.0	108.7	7.65	102.5	85	145	6	4
1985	11	109709	4800	19	0.0	95.0	0.00	95.0	95	95	1	2
1986	4	113709	4975	8	0.0	118.0	0.00	118.0	118	118	1	1
All	207	3151751	137896	25	4.2	113.1	1.63	110.2	85	176	42	13

Table 023-4. Spawn summary for section 023 from 1937 to 1986.

A. GENERAL:

There are two main spawning areas in this Cumshewa Inlet section:
(i) Conglomerate Point and
(ii) Beattie Anchorage

B. COMPLETENESS OF RECORDS:

Probably all spawning records prior to 1967 are incomplete.

C. SPAWNING CONSISTENCY OVER TIME: CONSTANT

If pooled among all localities, there has been a nearly constant annual record of spawnings since 1967 except for the years, 1968-69 and 1980.

D. MAGNITUDE OF SPAWNINGS: MEDIUM

1. NUMBER OF SPAWN YEARS/50 YEARS	= 18/50 (1937-86)
2. NUMBER OF SPAWN YEARS/DOCUMENTED YEARS	= 17/20 (1967-86)
3. CUMULATIVE SPAWN LENGTH	= 137.9 Km.
4. CUMULATIVE SPAWN AREA	= 315.2 ha.

E. SPAWNING TIME:

1. MEAN UNWEIGHTED DATE (DOY)	= April 23 (113.1)
2. MEAN WEIGHTED DATE (DOY)	= April 20 (110.2)

F. COMMENTS:

An uncertain area with widely dispersed spawnings that are slightly later (April 23) than those to the south (Sewell and Selwyn Inlets). Close proximity suggests that they belong to the same stock. Possible winter distributions in Selwyn Inlet, Dana Inlet and Laskeek Bay.

G. ROE FISHERIES:

1. NUMBER OF SEINE FISHERY YEARS/15 YEARS	= 5/15 (1972-86)
2. NUMBER OF GILLNET FISHERY YEARS/15 YEARS	= 1/15 (1972-86)
3. MEAN SEINE CATCH/YEAR	= 3339 tons
4. MEAN GILLNET CATCH/YEAR	= 405 tons

Table 023-5. History of roe fishery catches by gear type in Cumshewa Inlet.

SECT. 023	SEINE NET ROE FISHERIES				GILLNET ROE FISHERIES			
YEAR	DATE OPEN (D/Mo)	TIME OPEN (hrs)	HAILED CATCH (Tons)	FISHING AREA	DATE OPEN (D/Mo)	TIME OPEN (hrs)	HAILED CATCH (Tons)	FISHING AREA
1972	25/03-01/04	168	(5110)	Cumshewa, Louscoone & Skincuttle	-	-	-	-
1973	18/03-22/03	96	5400	Cumshewa Inlet (head)	-	-	-	-
1974	25/03-26/03	29	4600	Cumshewa Inlet (head)	-	-	-	-
1975	06/04	4.5	1800	Cumshewa Inlet (head)	-	-	-	-
1976	09/04-11/04	-	1555	Cumshewa Inlet (head)	09/04-11/04	-	405	Cumshewa Inlet (head)
1977	-	-	-	-	-	-	-	-
1978	-	-	-	-	-	-	-	-
1979	-	-	-	-	-	-	-	-
1980	-	-	-	-	-	-	-	-
1981	-	-	-	-	-	-	-	-
1982	-	-	-	-	-	-	-	-
1983	-	-	-	-	-	-	-	-
1984	-	-	-	-	-	-	-	-
1985	-	-	-	-	-	-	-	-
1986	-	-	-	-	-	-	-	-

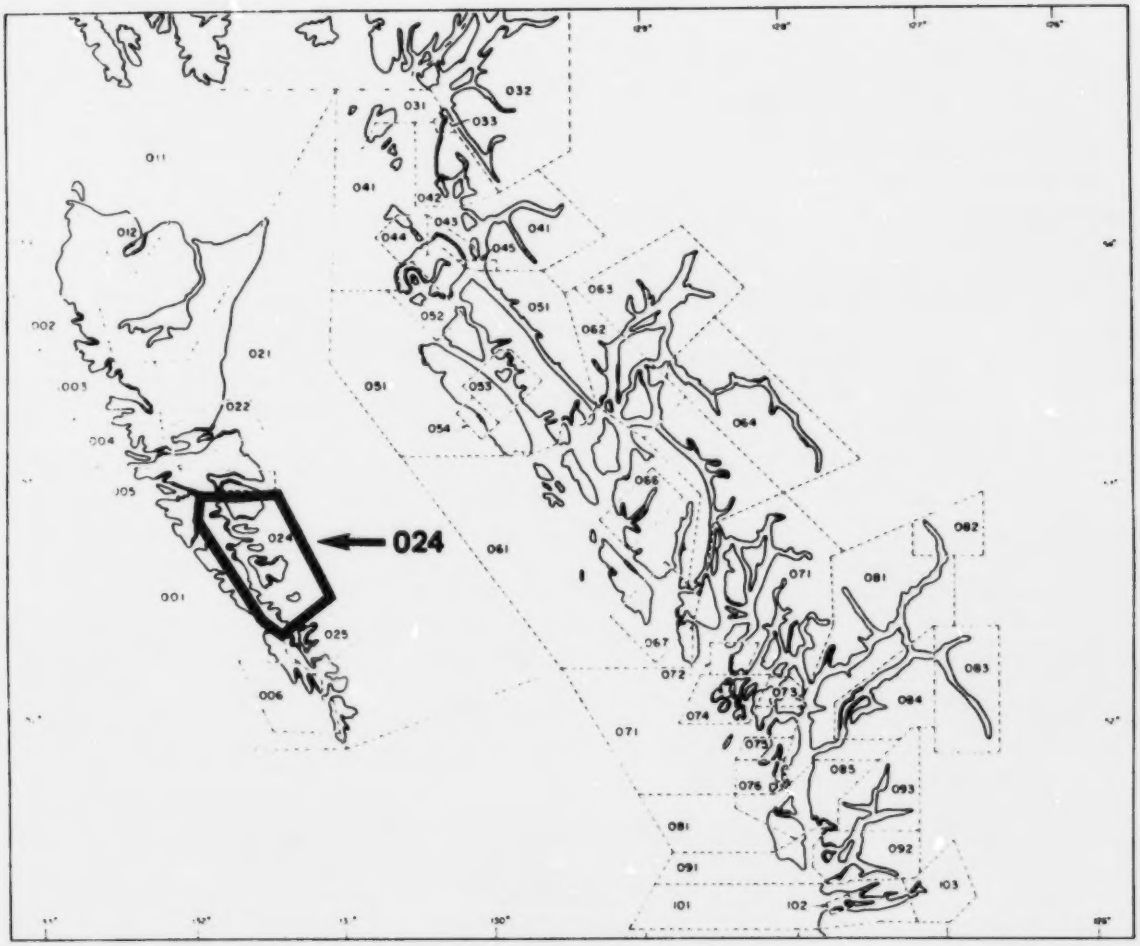


Fig. 024-1. Overview map showing location of section 024, Laskeek Bay.

Fig. 024-2. Detailed map of section 024, Laskeek Bay.

Table 024-1. Section 024 - spawn position by year.

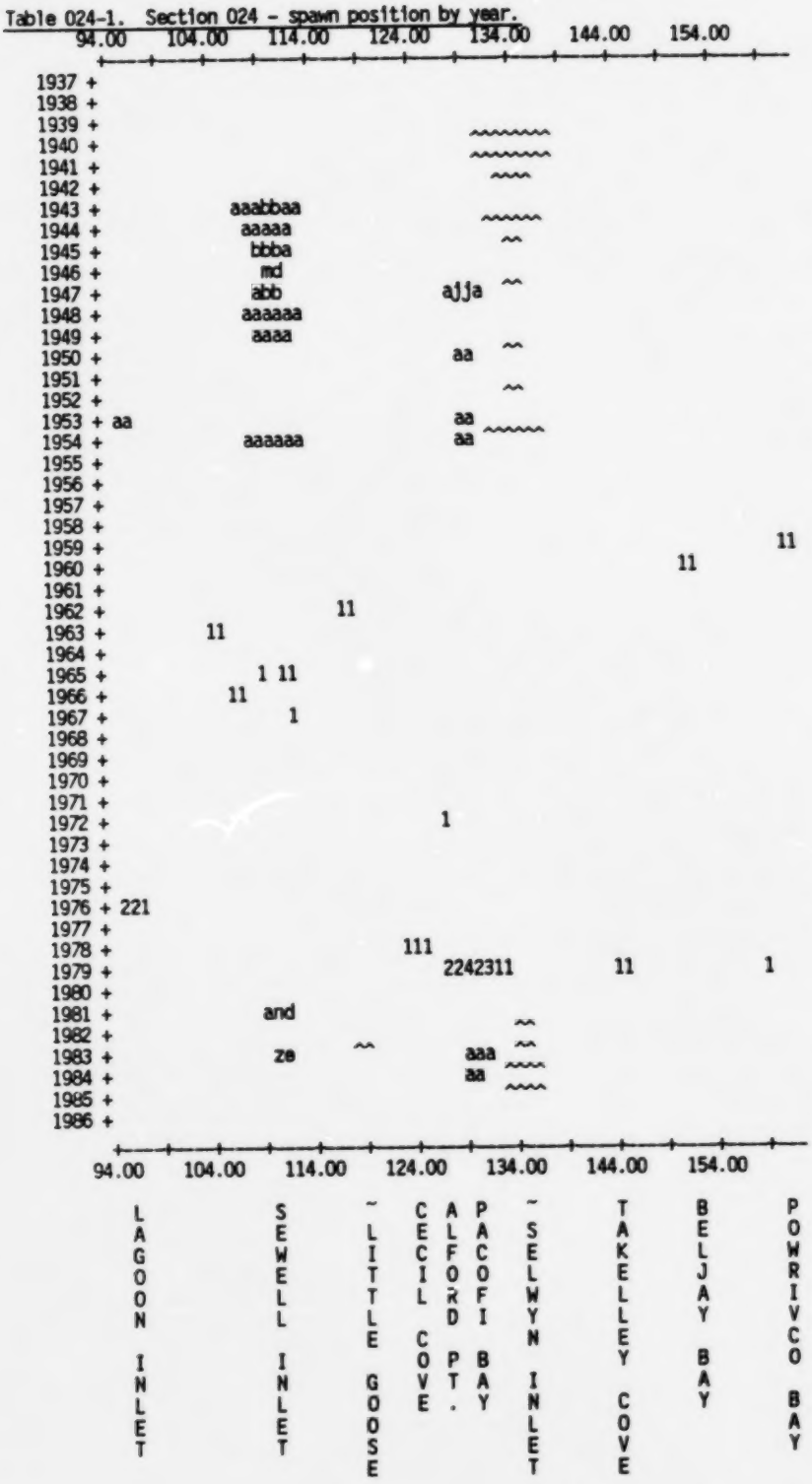


Table 024-2. Section 024 - histogram of cumulative spawn frequency over distance

```
                    position(km)
                          0    5   10   15   20   25   30   35   40   45   50   55   60   65   70   75  vara varb varc  all
                          +----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+
                   93.00  +                                                                               0    0    0    0
                   94.00  +                                                                               0    0    0    0
                   95.00  +**0                                                                            2    1    0    3
LAGOON INLET       96.00  +**0                                                                            2    1    0    3
                   97.00  +*                                                                              1    0    0    1
                   98.00  +                                                                               0    0    0    0
                   99.00  +                                                                               0    0    0    0
                  100.00  +                                                                               0    0    0    0
                  101.00  +                                                                               0    0    0    0
                  102.00  +                                                                               0    0    0    0
                  103.00  +                                                                               0    0    0    0
                  104.00  +*                                                                              1    0    0    1
                  105.00  +*                                                                              1    0    0    1
                  106.00  +*                                                                              1    0    0    1
                  107.00  +*0                                                                             1    1    0    2
                  108.00  +0000                                                                           0    4    0    4
                  109.00  +*000000000                                                                     1    9    0   10
SEWELL INLET      110.00  +0000000000000000000000000000000000000000000000000000000000000000000000000   0   63    0   63
                  111.00  +*00000000000000000000000                                                      1   23    0   24
                  112.00  +**000000                                                                      2    6    0    8
                  113.00  +000                                                                           0    3    0    3
                  114.00  +                                                                               0    0    0    0
                  115.00  +                                                                               0    0    0    0
                  116.00  +                                                                               0    0    0    0
                  117.00  +*                                                                              1    0    0    1
                  118.00  +*IIIIIII                                                                       1    0    7    8
~ LITTLE GOOSE    119.00  +IIIIIIII                                                                       0    0    7    7
                  120.00  +                                                                               0    0    0    0
                  121.00  +                                                                               0    0    0    0
                  122.00  +                                                                               0    0    0    0
                  123.00  +*                                                                              1    0    0    1
CECIL COVE        124.00  +*                                                                              1    0    0    1
                  125.00  +*                                                                              1    0    0    1
                  126.00  +                                                                               0    0    0    0
                          0    5   10   15   20   25   30   35   40   45   50   55   60   65   70   75  vara varb varc  all
                          +----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+
```

Table 024-2 (cont'd.)

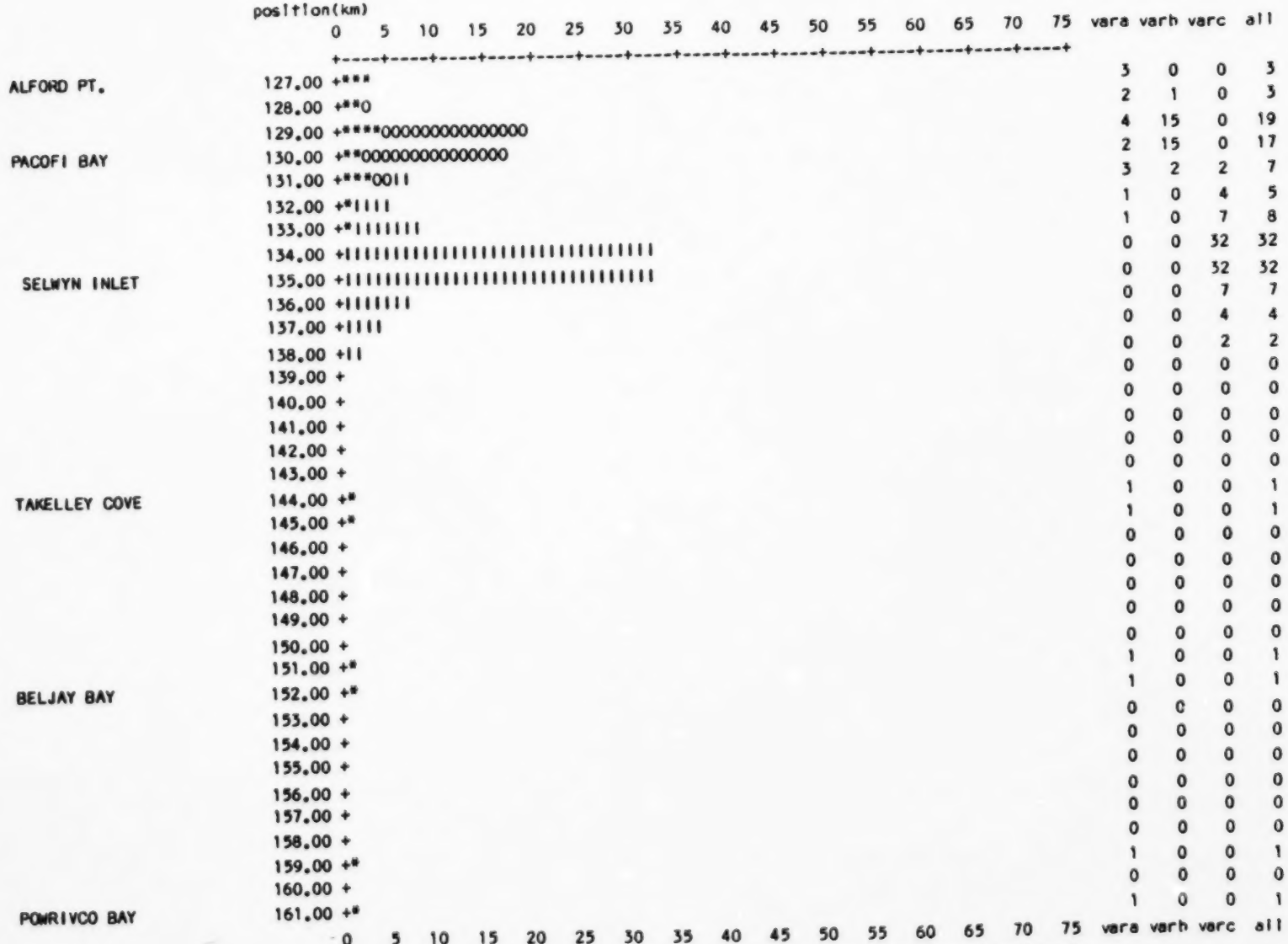


Table 024-2 (cont'd.)

	position(km) 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75	vara	varb	varc	all
	162.00 +*	1	0	0	1
	163.00 +*	1	0	0	1
	164.00 +*	1	0	0	1
	165.00 +*	1	0	0	1
	166.00 +*	1	0	0	1
	167.00 +	0	0	0	0
	168.00 +	0	0	0	0
	169.00 +	0	0	0	0
	170.00 +	0	0	0	0
	171.00 +	0	0	0	0
	172.00 +	0	0	0	0
	173.00 +	0	0	0	0
	174.00 +	0	0	0	0
	175.00 +	0	0	0	0
	176.00 +	0	0	0	0
	177.00 +	0	0	0	0
	178.00 +I	0	0	1	1
	179.00 +IIII

Table 024-2 (cont'd.)

	position(km) 0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75	vara	varh	varc	all
	197.00 +	0	0	0	0
	198.00 +	0	0	0	0
	199.00 +	0	0	0	0
	200.00 +	0	0	0	0
	201.00 +	0	0	0	0
	202.00 +	0	0	0	0
	203.00 +	0	0	0	0
	204.00 +	0	0	0	0
	205.00 +	0	0	0	0
	206.00 +	0	0	0	0
	207.00 +	0	0	0	0
	208.00 +	0	0	0	0
	209.00 +IIIIII	0	0	5	5
CRESCENT INLET	210.00 +IIIIII	0	0	5	5
	211.00 +	0	0	0	0
	212.00 +	0	0	0	0
	213.00 +	0	0	0	0
	214.00 +	0	0	0	0
	215.00 +	0	0	0	0
	216.00 +	0	0	0	0
	217.00 +	0	0	0	0
	218.00 +	0	0	0	0
	219.00 +	0	0	0	0
	220.00 +	0	0	0	0
	221.00 +	0	0	0	0
	222.00 +	0	0	0	0
	223.00 +	0	0	0	0
	224.00 +	0	0	0	0
	225.00 +	0	0	0	0
	226.00 +	0	0	0	0
	227.00 +I	0	0	1	1
	228.00 +III	0	0	3	3
	229.00 +IIII	0	0	4	4
KLUNKWOI BAY	230.00 +IIII	0	0	4	4
	231.00 +III	0	0	3	3
	0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75	vara	varh	varc	all

Table 024-2 (cont'd.)

	position(km)	vara	varb	varc	all
	232.00	0	0	2	2
LOCKEPORT	233.00	0	0	1	1
	234.00	0	0	0	0
	235.00	0	0	0	0
	236.00	0	0	0	0
	237.00	0	0	0	0
	238.00	0	0	0	0
	239.00	0	0	0	0
	240.00	0	0	0	0
	241.00	0	0	0	0
	242.00	0	0	0	0
	243.00	0	0	0	0
	244.00	0	0	0	0
	245.00	0	0	0	0
	246.00	0	0	0	0
	247.00	0	0	0	0
	248.00	0	0	0	0
	249.00	0	0	0	0
	250.00	0	0	0	0
	251.00	0	0	0	0
	252.00	0	0	0	0
	253.00	0	0	0	0
	254.00	0	0	0	0
	255.00	0	0	0	0
	256.00	0	0	0	0
	257.00	0	0	0	0
	258.00	0	0	0	0
	259.00	0	0	0	0
	260.00	0	0	0	0
	261.00	0	0	0	0
	262.00	0	0	0	0
	263.00	0	0	1	1
	264.00	0	0	1	1
	265.00	0	0	1	1
	266.00	0	0	1	1

Table 024-2 (cont'd.)

WERNER POINT

position(km)

	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	vara	varh	varc	all
267.00	+																0	0	1	1
268.00	+																0	0	1	1
269.00	+																0	0	1	1
270.00	+																0	0	1	1
271.00	+																0	0	1	1
272.00	+																0	0	1	1
273.00	+																0	0	0	0
	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	vara	varh	varc	all

Table 024-3. Herring statistical spawn summary for section 024.

Year	Total records	Spawn index	Sum length	Av wid	Av int	Av date	SE date	Wt date	Min day	Max day	Ind day	Ind loc
1937	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1938	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1939	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1940	1	107117	6435	0	7.0	106.0	0.00	106.0	106	106	1	1
1941	1	107117	6435	0	7.0	95.0	0.00	95.0	95	95	1	1
1942	4	95848	5758	19	8.5	95.0	0.00	103.6	95	95	1	2
1943	4	313877	18856	23	8.0	102.0	5.97	98.8	91	119	3	3
1944	4	273860	16452	18	7.5	98.5	6.33	99.8	80	108	4	3
1945	4	109081	6553	14	7.5	111.0	1.68	112.8	109	116	3	2
1946	14	113975	6847	15	6.7	114.6	0.36	114.9	110	115	2	2
1947	13	134799	8098	18	5.8	94.2	1.75	96.3	91	109	3	3
1948	1	77154	4635	11	9.0	116.0	0.00	116.0	116	116	1	1
1949	1	53550	3217	9	5.0	102.0	0.00	102.0	102	102	1	1
1950	3	45627	2741	15	5.0	129.3	0.67	129.6	128	130	2	3
1951	1	13700	823	64	6.0	94.0	0.00	94.0	94	94	1	1
1952	1	5327	320	5	5.0	120.0	0.00	120.0	120	120	1	1
1953	3	41082	2468	18	2.3	121.3	0.33	121.4	121	122	2	3
1954	4	230481	13846	12	4.0	111.8	5.12	109.8	105	127	4	4
1955	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1956	1	40167	2413	5	3.0	87.0	0.00	87.0	87	87	1	1
1957	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1958	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1959	1	94333	5667	11	6.0	108.0	0.00	108.0	108	108	1	1
1960	1	12168	731	27	5.0	115.0	0.00	115.0	115	115	1	1
1961	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1962	1	9122	548	9	3.0	81.0	0.00	81.0	81	81	1	1
1963	1	3046	183	9	3.0	111.0	0.00	111.0	111	111	1	1
1964	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1965	2	30429	1828	7	5.0	87.0	1.00	86.5	86	88	2	1
1966	1	9122	548	6	3.0	95.0	0.00	95.0	95	95	1	1
1967	1	3046	183	1	5.0	107.0	0.00	107.0	107	107	1	1
1968	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1969	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1970	1	2281	137	5	5.0	102.0	0.00	102.0	102	102	1	1
1971	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1972	1	12934	777	18	3.0	114.0	0.00	114.0	114	114	1	1
1973	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1974	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1975	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1976	3	31944	1919	9	5.0	111.0	0.00	111.0	111	111	1	1
1977	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1978	1	27383	1645	6	1.0	109.0	0.00	109.0	109	109	1	1
1979	16	71145	4274	10	2.5	117.3	0.82	117.4	105	119	3	4
1980	8	117105	7035	16	2.4	104.1	2.77	108.4	93	117	3	2
1981	53	296316	17801	22	0.0	100.6	0.68	101.9	94	106	4	4
1982	16	146518	8802	19	0.0	85.4	2.44	88.0	76	95	3	3
1983	42	289907	17416	16	0.0	96.2	0.31	97.1	95	104	5	7
1984	38	241700	14520	11	0.0	105.7	1.75	103.7	96	149	8	7
1985	8	177280	10650	19	0.0	99.4	1.65	100.4	96	105	2	2
1986	20	81649	4905	7	0.0	117.4	1.26	118.9	109	121	2	1
All	275	3420188	205466	15	5.0	103.5	0.68	103.4	76	149	38	23

Table 024-4. Spawn summary for section 024 from 1937 to 1986.

A. GENERAL:

There are three major spawning areas in this section:
(i) Sewell Inlet
(ii) Selwyn Inlet and
(iii) Sedgewick Bay

B. COMPLETENESS OF RECORDS:

The 50 year record is probably complete, however, some spawns may have been unreported due to infrequent access to the area.

C. SPAWNING CONSISTENCY OVER TIME: FREQUENT

If pooled among all localities, there has been constant spawning only during 1940-54 and 1978-86 with intermittent spawning during other years.

D. MAGNITUDE OF SPAWNINGS: MEDIUM

1. NUMBER OF SPAWN YEARS/50 YEARS	= 35/50 (1937-86)
2. NUMBER OF SPAWN YEARS/DOCUMENTED YEARS	= 35/50 (1937-86)
3. CUMULATIVE SPAWN LENGTH	= 205.5 Km.
4. CUMULATIVE SPAWN AREA	= 342.0 ha.

E. SPAWNING TIME:

1. MEAN UNWEIGHTED DATE (DOY)	= April 14 (103.5)
2. MEAN WEIGHTED DATE (DOY)	= April 13 (103.4)

F. COMMENTS:

It is likely that Sewell and Selwyn Inlet spawns belong to a stock to the north (section 023) and Sedgewick Bay spawns probably belong to a stock to the south (section 025). The mean spawning date of section 024 is intermediate to that of sections 023 and 025. There is evidence of a large winter distribution in Juan Perez Sound (McCarter et al. 1987).

G. ROE FISHERIES:

1. NUMBER OF SEINE FISHERY YEARS/15 YEARS	= 2/15 (1972-86)
2. NUMBER OF GILLNET FISHERY YEARS/15 YEARS	= 1/15 (1972-86)
3. MEAN SEINE CATCH/YEAR	= 515 tons
4. MEAN GILLNET CATCH/YEAR	= 179 tons

Table 024-5. History of roe fishery catches by gear type in Laskeek Bay.

SECT. 024	SEINE NET ROE FISHERIES				GILLNET ROE FISHERIES			
YEAR	DATE OPEN (D/Mo)	TIME OPEN (hrs)	HAILED CATCH (Tons)	FISHING AREA	DATE OPEN (D/Mo)	TIME OPEN (hrs)	HAILED CATCH (Tons)	FISHING AREA
1972	-	-	-	-	-	-	-	-
1973	-	-	-	-	-	-	-	-
1974	-	-	-	-	-	-	-	-
1975	-	-	-	-	-	-	-	-
1976	-	-	-	-	-	-	-	-
1977	-	-	-	-	-	-	-	-
1978	-	-	-	-	-	-	-	-
1979	-	-	-	-	-	-	-	-
1980	-	-	-	-	-	-	-	-
1981	24/03	1.3	755	Atli Inlet	24/03-30/03	139	179	Atli Inlet
1982	22/03	6.9	275	Atli Inlet	-	-	-	-
1983	-	-	-	-	-	-	-	-
1984	-	-	-	-	-	-	-	-
1985	-	-	-	-	-	-	-	-
1986	-	-	-	-	-	-	-	-

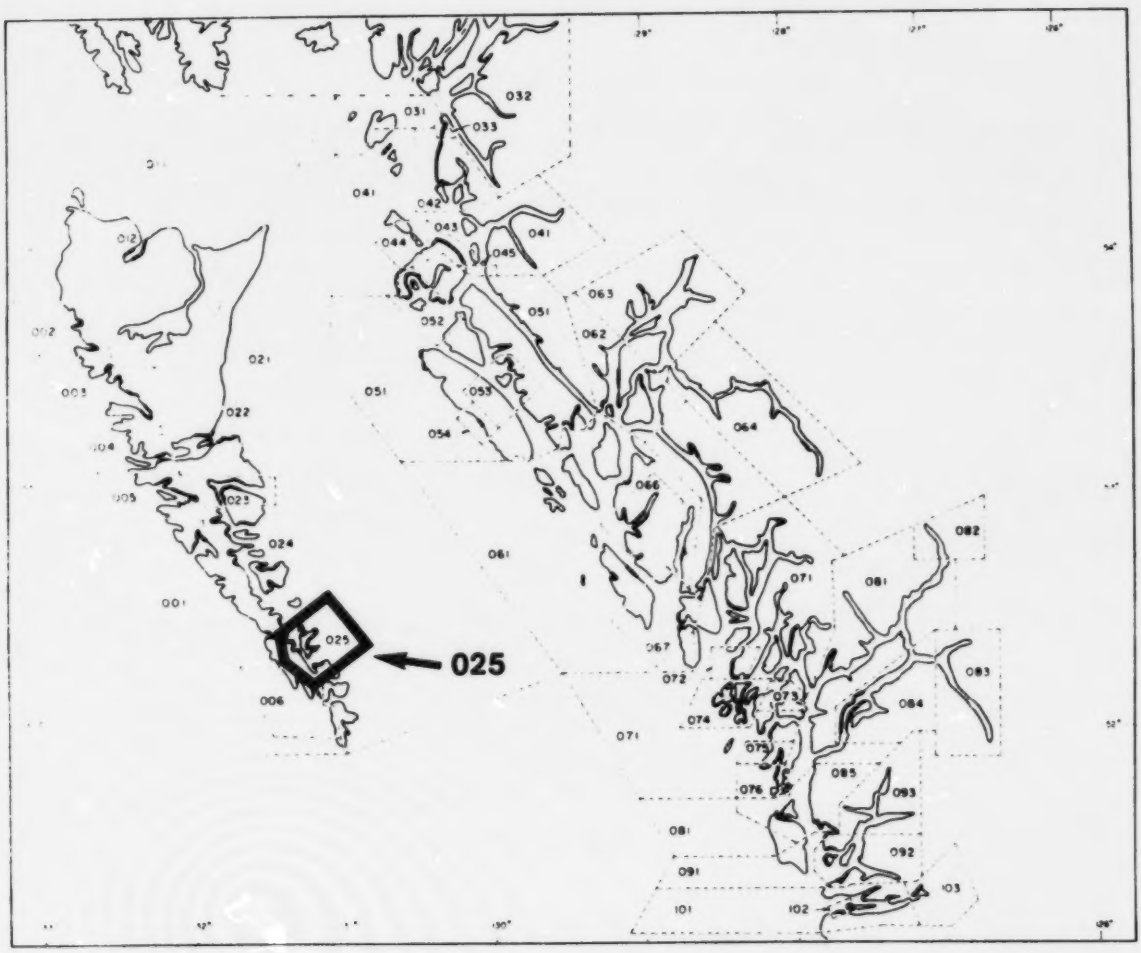


Fig. 025-1. Overview map showing location of section 025, Skincuttle Inlet.

Fig. 025-2. Detailed map of section 025, Skincuttle Inlet.

Table 025-1. Section 025 - spawn position by year.

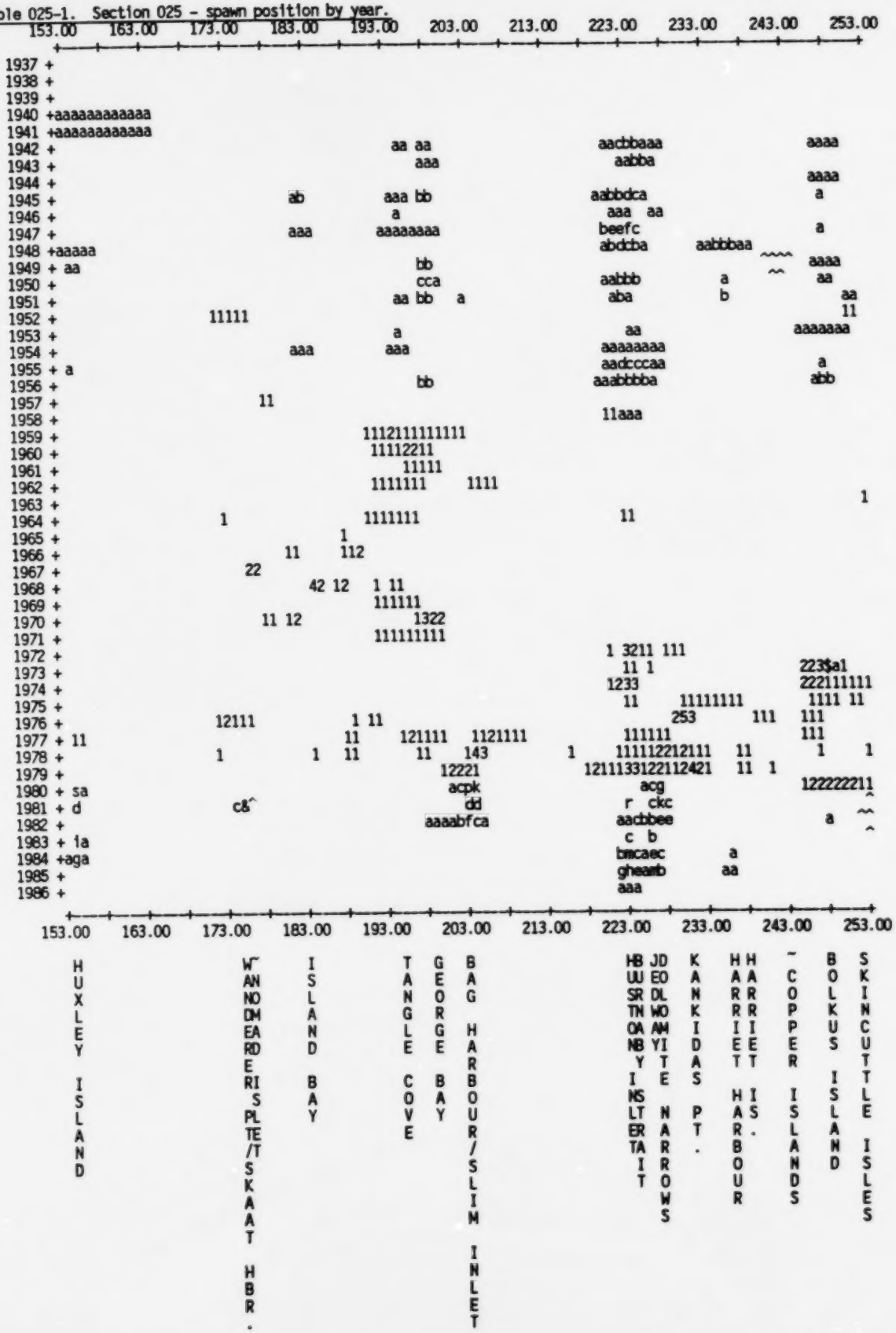


Table 025-1. Section 025 (cont'd) - spawn position by year.

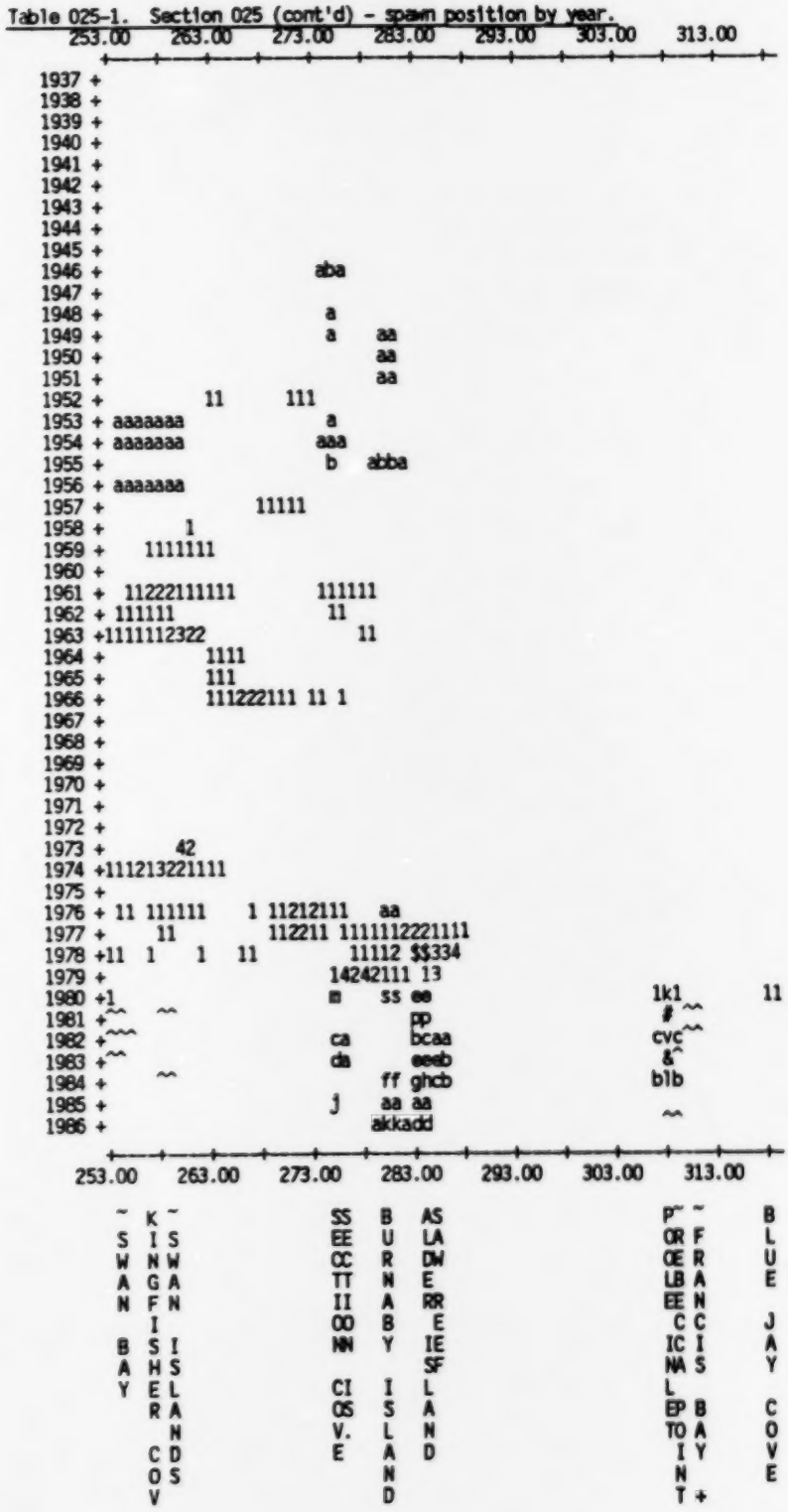


Table 025-2. Section 025 - histogram of cumulative spawn frequency over distance

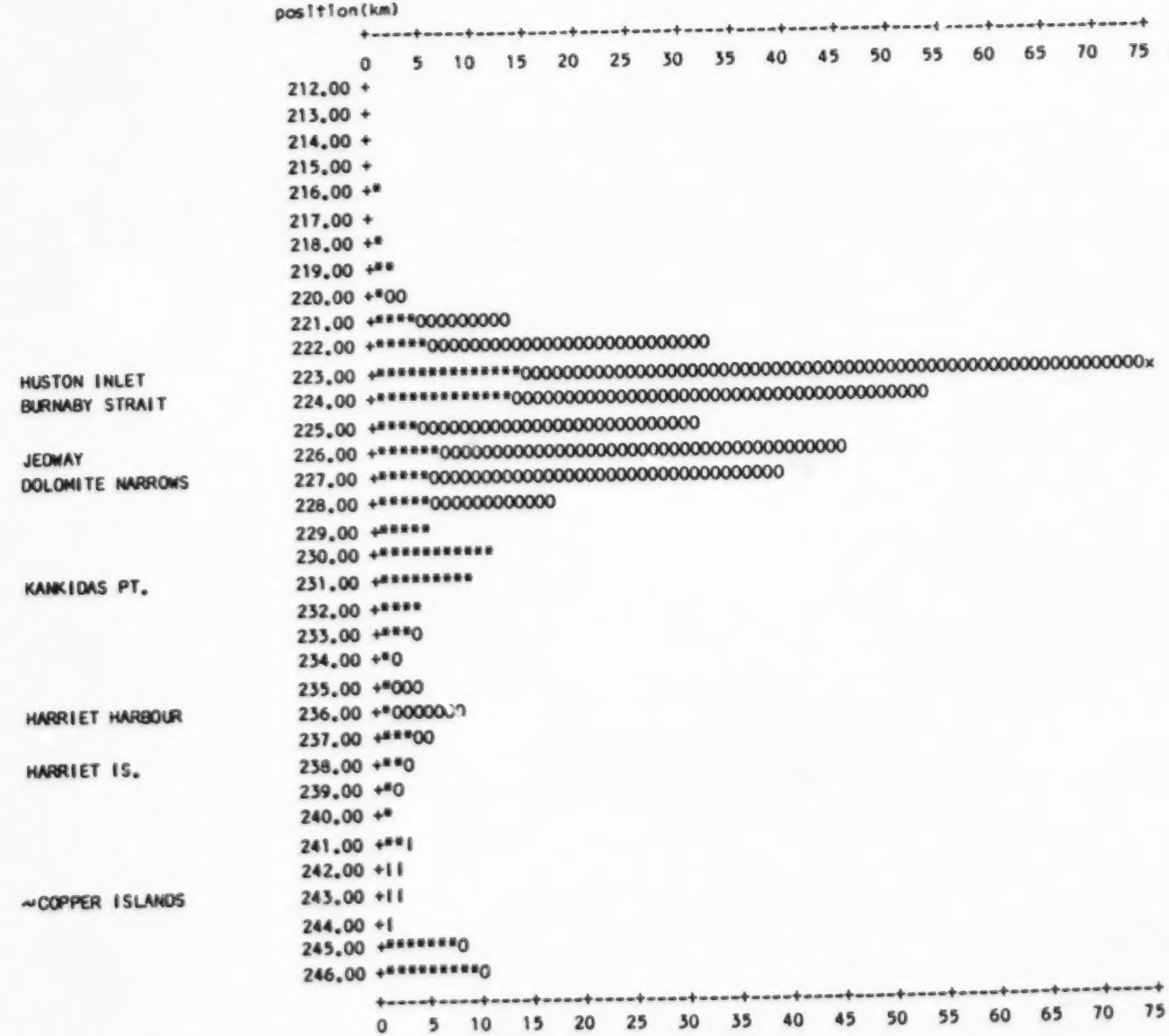
```
                        position(km)
                              0    5   10   15   20   25   30   35   40   45   50   55   60   65   70   75  vara varb varc  all
                              +----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+
                     143.00 +                                                                               0    0    0    0
                     144.00 +00                                                                             0    2    0    2
                     145.00 +00                                                                             0    2    0    2
                     146.00 +00                                                                             0    2    0    2
                     147.00 +00                                                                             0    2    0    2
                     148.00 +00                                                                             0    2    0    2
                     149.00 +00                                                                             0    2    0    2
                     150.00 +00                                                                             0    2    0    2
                     151.00 +000                                                                            0    3    0    3
                     152.00 +000                                                                            0    3    0    3
                     153.00 +0000                                                                           0    4    0    4
HUXLEY ISLAND        154.00 +*000000000000000000000000000000000000000000000000000000000000000000000000    1   44    0   45
                     155.00 +*0000000                                                                       1    7    0    8
                     156.00 +000                                                                            0    3    0    3
                     157.00 +000                                                                            0    3    0    3
                     158.00 +00                                                                             0    2    0    2
                     159.00 +00                                                                             0    2    0    2
                     160.00 +00                                                                             0    2    0    2
                     161.00 +00                                                                             0    2    0    2
                     162.00 +00                                                                             0    2    0    2
                     163.00 +00                                                                             0    2    0    2
                     164.00 +00                                                                             0    2    0    2
                     165.00 +                                                                               0    0    0    0
                     166.00 +                                                                               0    0    0    0
                     167.00 +                                                                               0    0    0    0
                     168.00 +                                                                               0    0    0    0
                     169.00 +                                                                               0    0    0    0
                     170.00 +                                                                               0    0    0    0
                     171.00 +                                                                               0    0    0    0
                     172.00 +***                                                                            3    0    0    3
                     173.00 +****                                                                           4    0    0    4
                     174.00 +**000                                                                          2    3    0    5
WANDERER POI/SKAAT HARBOU 175.00 +**0000000000000000000000IIIIIIII                                          2   20    7   29
~NOMAD ISLET         176.00 +****IIIIIIII                                                                   4    0    7   11
                              +----+----+----+----+----+----+----+----+----+----+----+----+----+----+----+
                              0    5   10   15   20   25   30   35   40   45   50   55   60   65   70   75  vara varb varc  all
```

Table 025-2 (cont'd.)

position(km)

		0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75	vara	varb	varc	all
	177.00	+**	2	0	0	2
	178.00	+**	2	0	0	2
	179.00	+**	2	0	0	2
	180.00	+	0	0	0	0
	181.00	+**	2	0	0	2
	182.00	+***000	3	3	0	6
ISLAND BAY	183.00	+0000	0	4	0	4
	184.00	+*****00	5	2	0	7
	185.00	+**	2	0	0	2
	186.00	+	0	0	0	0
	187.00	+*	1	0	0	1
	188.00	+******	6	0	0	6
	189.00	+*****	4	0	0	4
	190.00	+**	2	0	0	2
	191.00	+***	3	0	0	3
	192.00	+********	8	0	0	8
	193.00	+*******0	6	1	0	7
	194.00	+********000	8	3	0	11
TANGLE COVE	195.00	+********0000000	8	7	0	15
	196.00	+**********00000	10	5	0	15
	197.00	+***********0	11	1	0	12
	198.00	+**********0000000000000000	10	15	0	25
GEORGE BAY	199.00	+********000000000000000	7	15	0	22
	200.00	+********0000	7	4	0	11
	201.00	+***00	3	2	0	5
	202.00	+***00000	3	5	0	8
BAG HARBOUR /SLIM INLET	203.00	+****0000000000000000000000000000	4	27	0	31
	204.00	+********00000000000000000	7	18	0	25
	205.00	+******0	5	1	0	6
	206.00	+***	3	0	0	3
	207.00	+**	2	0	0	2
	208.00	+*	1	0	0	1
	209.00	+*	1	0	0	1
	210.00	+*	1	0	0	1
	211.00	+	0	0	0	0
		0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75	vara	varb	varc	all

Table 025-2 (cont'd.)



vara	varh	varc	all
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0
1	0	0	1
0	0	0	0
1	0	0	1
2	0	0	2
1	2	0	3
4	9	0	13
5	27	0	32
14	72	0	86
13	40	0	53
4	27	0	31
6	39	0	45
5	34	0	39
5	12	0	17
5	0	0	5
11	0	0	11
9	0	0	9
4	0	0	4
3	1	0	4
1	1	0	2
1	3	0	4
1	7	0	8
3	2	0	5
2	1	0	3
1	1	0	2
1	0	0	1
2	0	1	3
0	0	2	2
0	0	2	2
0	0	1	1
7	1	0	8
9	1	0	10

Table 025-2 (cont'd.)

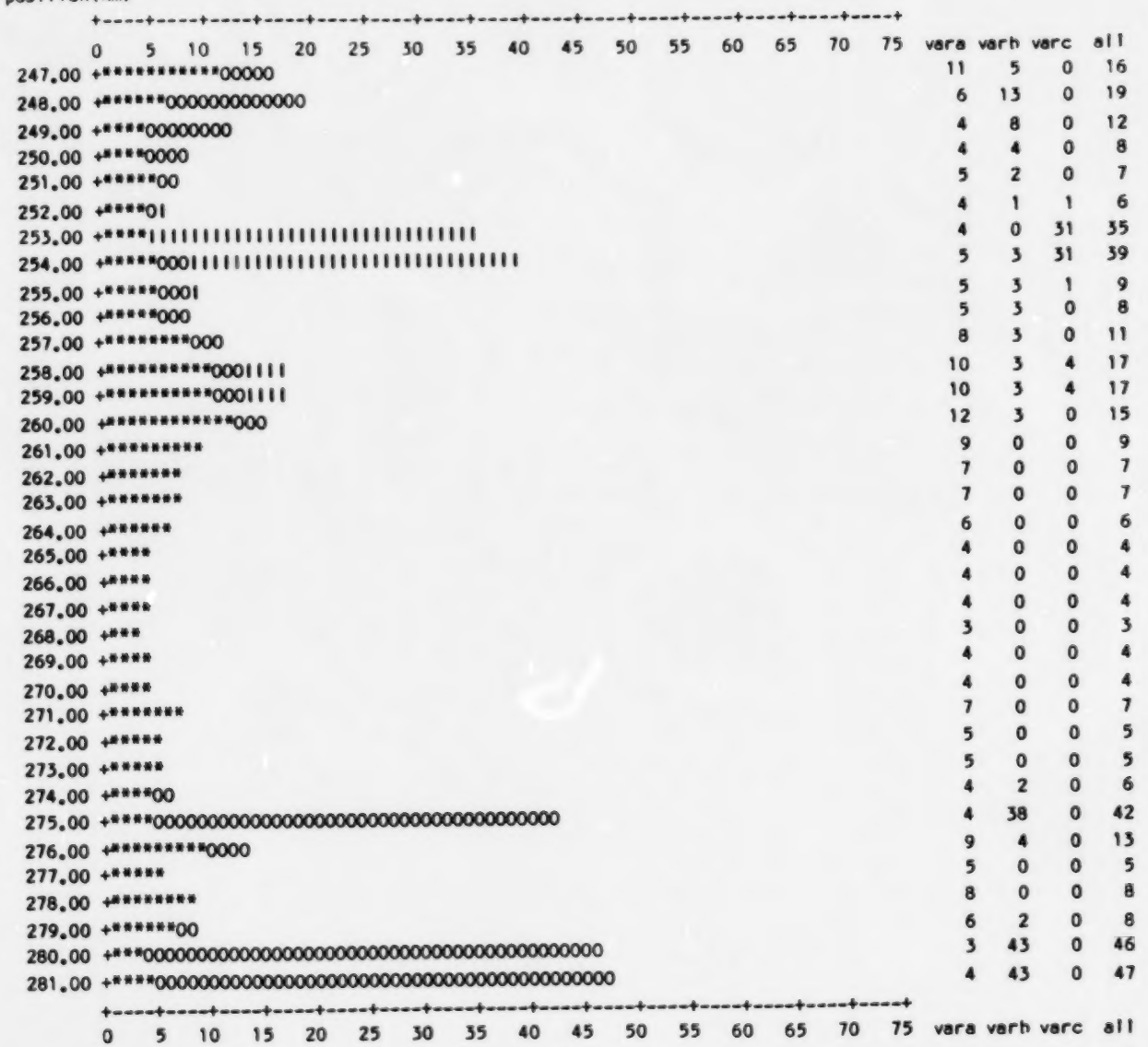


Table 025-2 (cont'd.)

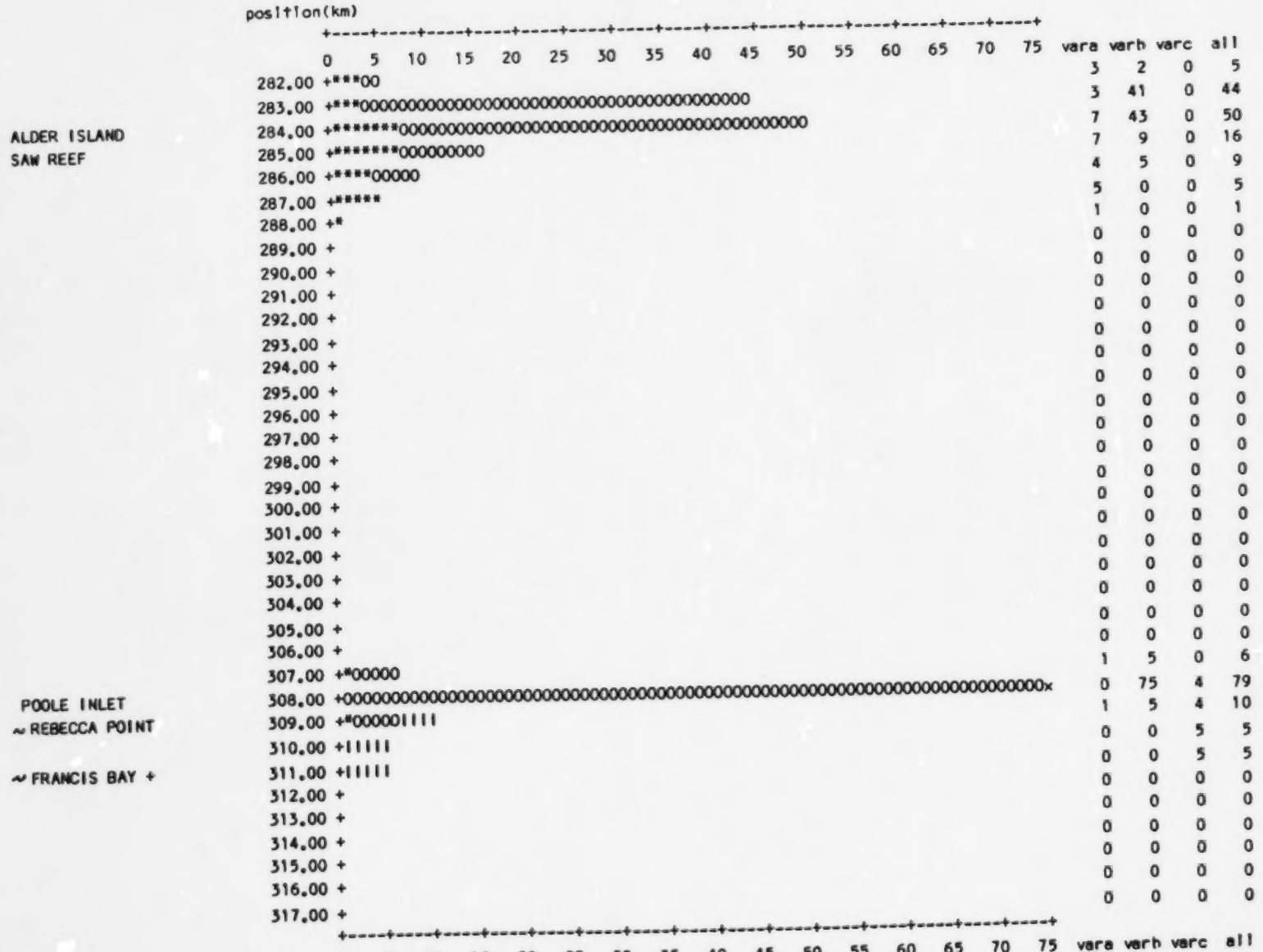


Table 025-2 (cont'd.)

BLUE JAY COVE

position(km)

	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	vara	varb	varc	all
318.00	+*																1	0	0	1
319.00	+*																1	0	0	1
320.00	+																0	0	0	0
	0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	vara	varb	varc	all

Table 025-3. Herring statistical spawn summary for section 025.

Year	Total records	Spawn index	Sum length	Av wid	Av int	Av date	SE date	Wt date	Min day	Max day	Ind day	Ind loc
1937	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1938	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1939	0	0	0	0	0.0	0.0	0.00	0.0	0	0	0	0
1940	2	701994	30564	0	7.0	95.5	0.50	95.4	95	96	2	2
1941	2	701994	30564	0	6.0	94.5	0.50	94.4	94	95	2	2
1942	9	540575	23536	31	6.3	95.0	0.00	78.1	95	95	1	7
1943	4	149039	6489	19	5.5	107.3	2.14	109.3	101	110	3	4
1944	1	73475	3199	18	9.0	101.0	0.00	101.0	101	101	1	1
1945	13	580677	25282	70	7.8	95.7	2.98	93.8	84	118	8	8
1946	6	251477	10949	93	6.3	92.0	3.25	89.5	83	105	6	5
1947	10	458487	19962	43	7.2	101.1	0.55	100.9	99	103	5	6
1948	9	639934	27862	33	7.0	99.2	0.86	99.4	93	102	5	6
1949	7	194194	8455	16	5.9	103.1	0.51	104.0	102	105	3	6
1950	10	219804	9570	29	4.2	94.4	0.37	94.1	93	96	4	7
1951	11	204714	8913	23	4.9	92.9	0.31	93.1	91	94	4	8
1952	4	176348	7678	27	4.8	105.5	4.21	110.2	100	118	4	3
1953	5	300904	13101	17	4.2	91.6	0.40	92.4	91	93	3	5
1954	5	454698	19797	16	5.4	91.8	0.73	91.1	90	94	4	5
1955	10	417742	18188	6	5.0	95.4	1.91	93.6	91	105	4	6
1956	9	426125	18553	7	3.9	93.1	2.04	93.2	87	100	3	6
1957	2	108133	4708	8	4.0	95.0	0.00	95.0	95	95	1	1
1958	3	58775	2559	6	4.0	83.0	2.00	82.3	81	87	2	3
1959	5	365283	15904	10	4.0	80.4	2.40	82.5	78	90	2	5
1960	2	180551	7861	18	5.5	84.0	0.00	84.0	84	84	1	2
1961	4	497211	21648	10	4.8	85.0	0.00	85.0	85	85	1	4
1962	6	277086	12064	58	4.2	81.0	0.63	81.4	80	83	2	5
1963	7	273939	11927	18	4.6	85.6	1.23	85.6	81	90	5	3
1964	5	188935	8226	23	5.6	75.0	2.43	71.5	70	83	4	4
1965	2	58775	2559	9	5.0	94.0	0.00	94.0	94	94	1	1
1966	11	211168	9194	23	3.6	102.6	1.96	104.2	94	111	8	5
1967	2	33602	1463	35	4.5	101.5	5.50	104.2	96	107	2	1
1968	10	53538	2331	7	3.8	97.9	1.72	99.7	92	103	3	5
1969	2	88174	3839	46	6.0	120.0	1.00	119.2	119	121	2	2
1970	9	108662	4731	71	4.8	94.2	0.88	95.2	92	97	2	3
1971	1	184732	8043	27	7.0	95.0	0.00	95.0	95	95	1	1
1972	5	146949	6398	22	4.6	97.4	0.98	98.7	95	99	2	1
1973	16	157859	6873	29	4.1	102.4	1.11	103.6	91	104	2	3
1974	15	535821	23329	14	4.5	95.3	2.19	90.4	84	105	5	3
1975	6	268703	11699	14	4.7	95.3	1.82	95.0	89	99	4	3
1976	20	626636	27283	10	4.3	99.2	2.14	103.1	76	110	11	8
1977	16	862816	37566	9	4.2	90.3	0.67	90.3	83	95	8	8
1978	39	675971	29431	21	4.2	101.3	1.58	101.4	82	114	13	14
1979	35	475047	20683	17	3.5	98.6	0.45	99.3	91	103	8	9
1980	128	1260323	54873	24	3.2	91.3	0.60	86.4	69	117	18	12
1981	142	1073341	46732	29	0.0	79.7	0.85	80.7	60	107	12	15
1982	67	1026325	44685	25	0.0	76.2	0.94	76.8	66	91	6	16
1983	43	637017	27735	25	0.0	81.1	2.39	78.9	60	129	9	10
1984	61	725100	31570	31	0.0	81.7	0.90	81.8	68	90	11	12
1985	41	656311	28575	25	0.0	90.7	0.40	90.2	83	96	5	7
1986	19	235560	10256	24	0.0	96.5	0.27	97.1	96	101	3	5
All	841	18544526	807407	26	4.3	89.0	0.40	90.6	60	129	51	39

Table 025-4. Spawn summary for section 025 from 1937 to 1986.

A. GENERAL:

There are four main spawning areas in this section:
(i) Huxley Alder Islands
(ii) Bag Harbour-Slim Inlet
(iii) North shore of Skincuttle Inlet and
(iv) South shore of Skincuttle Inlet

B. COMPLETENESS OF RECORDS:

Probably all spawning records prior to 1940 are incomplete.

C. SPAWNING CONSISTENCY OVER TIME: CONSTANT

If pooled among all localities, there has been a constant annual record of spawnings since 1940.

D. MAGNITUDE OF SPAWNINGS: VERY LARGE

1. NUMBER OF SPAWN YEARS/50 YEARS	= 47/50 (1937-86)
2. NUMBER OF SPAWN YEARS/DOCUMENTED YEARS	= 47/47 (1940-86)
3. CUMULATIVE SPAWN LENGTH	= 807.4 Km.
4. CUMULATIVE SPAWN AREA	= 1854.5 ha.

E. SPAWNING TIME:

1. MEAN UNWEIGHTED DATE (DOY)	= March 30 (89.0)
2. MEAN WEIGHTED DATE (DOY)	= April 1 (90.6)

F. COMMENTS:

Historically a large spawning stock with a continuous record of spawnings since the 1930's. There is evidence of a large winter distribution in Juan Perez Sound (McCarter et al. 1987). This large stock may extend to section 006 (Louscoone and Flamingo Inlets) to the southwest and to section 024 (Sedgewick Bay) to the northwest.

G. ROE FISHERIES:

1. NUMBER OF SEINE FISHERY YEARS/15 YEARS	= 15/15 (1972-86)
2. NUMBER OF GILLNET FISHERY YEARS/15 YEARS	= 13/15 (1972-86)
3. MEAN SEINE CATCH/YEAR	= 5137 tons
4. MEAN GILLNET CATCH/YEAR	= 1269 tons

Table 025-5. History of roe fishery catches by gear type in Skincuttle Inlet.

SECT. 025	SEINE NET ROE FISHERIES				GILLNET ROE FISHERIES			
YEAR	DATE OPEN (D/Mo)	TIME OPEN (hrs)	HAILED CATCH (Tons)	FISHING AREA	DATE OPEN (D/Mo)	TIME OPEN (hrs)	HAILED CATCH (Tons)	FISHING AREA
1972	25/03-01/04	168	(5110)	Skincuttle, Cumshewa & Louscoone	-	-	-	-
1973	18/03-22/03	96	2800	Skincuttle Inlet	-	-	-	-
1974	19/03-21/03	48	3000	Skincuttle Inlet	25/03-26/03	29	145	Skincuttle Inlet
1975	19/03-29/03 & 31/03-05/04	-	4700	sect. 025	22/03-26/03 & 31/03	-	116	sect. 025
1976	21/03-26/03	6.5	10000	sect. 025	21/03-26/03	120	1218	sect. 025
1977	20/03 & 24/03	9.0	9171	Skincuttle Inlet	20/03-25/03	120	1650	Bag Hbr. & Jedway Bay
1978	20/03 & 21/03	-	8789	Skincuttle Inlet	20/03-24/03	96	2272	Skincuttle Inlet
1979	23/03	3.3	7532	Skincuttle Inlet	23/03-25/03	42	2460	Skincuttle Inlet
1980	23/03	2.9	1645	Skincuttle Inlet	24/03-27/03	76	1366	Skincuttle Inlet
1981	17/03	0.9	3858	Skincuttle Inlet	18/03-20/03	40	1553	Skincuttle & Huston Inlets
1982	14/03	1.9	2510	Burnaby Str.	20/03-22/03	39	1541	Burnaby Str.
1983	09/03	4.5	5030	Burnaby Str.	15/03	9	1100	Poole Inlet
1984	12/03	0.9	4910	Burnaby Str.	14/03	3	591	Poole Inlet
1985	11/03	5.8	4825	Skincuttle Inlet	25/03-26/03	14	1558	Burnaby Str.
1986	23/03	4.2	3143	Skincuttle & Huston Inlets	07/04	8	924	Scudder Pt. & Alder Is.